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Clinical Lectures.

ECLAMPSIA.*

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Gentlemen:—Eclampsia is a disease which for a long time past has commanded great interest from physicians; its obscure origin being by no means the smallest cause for such being the case.

An elucidation of its ætiology, in all probability, will not be by means of clinical research, but rather through experimental methods or chemical examinations of the blood and secretions. Nevertheless, it will be necessary for any theory of the genesis of the disease not to clash with its clinical manifestations, but, rather in the principal points at least, to coincide with them.

I have at hand the histories of two hundred cases of eclampsia, occurring between September 1st, 1885, and April 17th, 1891, at the Royal University's Women's Clinic here in Berlin. After a revision of the clinical manifestations observed in these cases, I will review comparatively the present theories regarding the genesis of the disease.

The two hundred cases upon which I base my observations and conclusions occurred during 2,054 days. This would mean one case in every ten and one-third days, or on an average of three cases in one month.

It has been frequently observed that cases of eclampsia occur in "bunches," and the following table will elucidate this. They occurred as follows:

In 1886, from July 22 to August 15, or in 25 days, 7 cases; from Sept. 12 to Sept. 25, or in 14 days, 5 cases. In 1888, from Oct. 8 to Oct. 23, or in 16 days, 7 cases; from Nov. 22 to Dec. 28, or in 37 days, 8 cases. In 1889, from Jan. 4 to Jan. 18, or in 15 days, 6 cases; from Dec. 5 to Dec. 31, or in 27 days, 8 cases. In 1890, from Feb. 4 to Feb. 28, or in 25 days, 6 cases; from June 22 to July 2, or in 11 days, 8 cases; from July 9 to July 24, or in 16 days, 8 cases; from Oct. 2 to Oct. 15, or in 14 days, 6 cases; from Dec. 5 to Dec. 30, or in 26 days, 6 cases. In 1891, from Jan. 6 to Jan. 29, or in 24 days, 6 cases.

When one remembers that the average number of cases would only be three in one month, one can see how that many of the cases occurred within a short time of each other. This list includes 81 of the 299 cases. It is remarkable also that the most of this "bunching" of cases occurred between the months of October and February. In the above list, between March and August there occur only 16 cases; all the rest occur between September and February, or 65 cases.

Nevertheless, this occurrence of cases at certain times of the year is in part accidental, for if I included all the other cases in this division (193) we would find the difference no longer marked; 88 falling between the months of March and August, and 105 between September and February. Yet this periodical "bunching" of cases seems so remarkable that I cannot regard it merely as accident or coincidence. No explanation can be given for this. The changes of temperature or weather cannot be responsible.

Among the writers on the subject of eclampsia, Delore* is the only one, apart from myself, who has noticed this peculiarity.

Regarding the ætiological factor of the disease, I can only offer additional con-

*Delivered in part before the Berlin Medical Society, December, 1891. Translated from *Volkmann's Collection of Clinical Lectures.*

* Delore, *Lyon Medical* 10, XII., 1884.

firmation to the well-known facts that experience has already taught us.

Among the 200 parturients affected with eclampsia, 145 were primiparæ and 51 multiparæ; the birth number in four cases was not known.

The proportion of primiparæ, according to my own observations, was 74 per cent; Löhlein gives this proportion as 85.4 per cent.* and 75 per cent.;† Schauta gives it as 82.6 per cent;‡ Brummerstadt as 80.5 per cent, ‖and C. Braun as 86.3 per cent.§

Among the primiparæ there were no less than 37 subjects of 28 years or over. The percentage of "old primiparæ being 25 per cent. Löhlein gives a percentage as 29 per cent.

Of the multiparæ 32 had borne two to four children, while 19 had given birth to five or over. These included 5 who had borne ten or eleven times.

Among the 200 cases there were 16 cases of twins, making 8 per cent. instead of the usual proportion of 1¼ per cent. in normal births. Löhlein gives the percentage of twins in eclampsia as 4.7 per cent.,** Winckel as 11 per cent.†† and Schauta as 7.9 per cent.‡‡

Regarding the number of patients taken with eclampsia during pregnancy before labor, I would not care to give any figures as a result of my own experiences. Nearly all the patients that came under my care had had more or less numerous attacks before being brought to the clinic, and the most of them were in labor. Lohlein considers that 4.7 per cent. develop the disease during pregnancy; Schanta places this number at 14 per cent. Winckel at 23 per cent. and Braun at 24 per cent. The cause of difference in these figures is easily understood, when one stops to consider that at the time of the physician's examination it is often impossible to determine with positiveness if the birth was already underway or not. With but very few exceptions the birth and eclampsia begin within a short time of each other.

According to my belief the high percentage of Braun comes nearest the truth, but it is also too low. An examination of the fœti born eclamptically will make this almost a certainty. When we regard the number that are reported as premature births, or accept as such all children weighing less than 2,250 grammes (less than 2000 grammes for twins) still the true number of premature births will be underrated. Nevertheless out of 161 in which I was able to make this investigation, 49 were found to be premature, or 30 per cent.

In the majority of these cases both the weight and length of the fœtus was so small that even the eighth month of pregnancy could not have been reached. Only 5 out of those specified as premature births, ever reached the weight of 2000 grammes. It seems, therefore, that the percentage of 30 per cent., is far too small, and that the actual number of premature births would reach to 40 per cent. or over. This can be easily explained by the frequent occurrence of the disease during pregnancy, and the then almost immediate occurrence of labor.

This fact is of great importance in the consideration of the various theories that have been advanced concerning eclampsia. But at present it is not sufficiently well known or authenticated. Yet, in Fenstell's* dissertation on the subject we find that in 80 cases of eclampsia he regarded the percentage of premature births as 37.75 per cent.

I will also state that I have observed eclampsia in the third and fourth months of pregnancy.†

The percentage of *sensu strictori* in puerperal eclampsias can be accurately determined. Among these should be included all those cases occurring during the after-birth period. So, among my 200 cases, I found a percentage of 14 per cent. Similarly, Winckel found 17 per cent.; Löhlein, 23 per cent.; Schauta, 26.4 per cent., and C. Braun, 24 per cent.

Among my cases there were five in which the eclampsia occurring during pregnancy passed without causing the birth of the fœtus. But all five—partly at home and

*Lohlein *Zeitschrift f. gebh. und Gyn.* Vol iv, p 88.

†Lohlein *Gynæk Tagesfragen*, Vol ii p 81.

‡Schauta *Archiv. f. Gyn.*, Vol xviii p 268.

‖Brummerstadt, Bericht and Rostocker Hebammenlehranstalt, 1865.

§C. Braun, Braun, Chlerian Spath's Obstetrics.

**Löhlein, *Gyn. Tagesfragen.*

††Winkel, *Lehrbuch der Gebutshülfe* 1889, page 580.

‡‡Shauta, *Arch. Gyn.*, Vol. xviii, page 268.

*See Maye, *Dissertation*, Halle, 1869; Cases I and III.

†Berlin, May 4, 1888.

partly at the clinic—gave birth to macerated fœti later on, but without any recurrence of the eclamptic attacks. Our cases have shown that if eclampsia occurs during pregnancy and passes without causing the eruption of the fœtus, it will not recur again at the birth of the fœtus.

It usually occurs in connection with the death of the fœtus,* and from this fact the theory may be deducted that eclampsia may be due to an intoxication produced from the living fœtus. Against this theory, however, is the fact that in many cases eclampsia does not occur for a half a day or longer after the birth of the child; and, apart from this also, from the fact that it not infrequently occurs until long after the death of the fœtus in the womb.

Among my cases such an one occurred. The patient was a primipara, thirty-two years old, who after four eclamptic attacks, occurring on August 7, gave birth to a greatly macerated fœtus on August 10. The woman was in the eighth month of pregnancy. After two more attacks, one on August 17 and 18, respectively, the patient recovered. The urine contained large quantities of albumin, cylinders, and renal epithelium. The treatment consisted in the exhibition of 0.03 gramme of muriate of morphine after the fifth, and 0.06 gramme after the sixth attack, and also 3.0 grammes of chloral by the rectum, in injection.

Braun has also reported two cases of eclampsia occurring when the fœtus was already macerated. That after the death of the fœtus the eclampsia does not recur at its subsequent birth, may be explainable by the almost constant and rapid decrease of the volume of the uterus after its death.

Although the return of eclampsia, which has ceased for twenty-four hours, is rare it occasionally occurs, nevertheless. We had experience with such a case. The patient was a primipara, twenty-one years old, who on the day of the birth of a living, yet undeveloped child (weighing 1,360 grammes and measuring 40 centimetres in length), on May 24, 1887, had several eclamptic attacks. The treatment consisted in the administration of 0.02 gramme of morphine and 3.0 grammes of chloral. The eclampsia returned on May 31, the seventh day after the birth of the fœtus. At this time she had two attacks. Morphine in 0.04 gramme doses was given. Eight days later (June 8) she again had a single attack. The urine was rich in albumin (two-thirds of its volume), and contained also many hyaline and granulated cylinders. The patient recovered.

Another similar case I experienced in former years. In the case in question, after eleven eclamptic attacks of puerperal eclampsia there occurred a cessation of the disease for thirty-six hours. Then, after a palpation of the uterus, a thirteenth and fourteenth attack occurred and, twenty-four hours later, again after the palpation of the uterus, the fourteenth attack. This was followed by additional convulsions, occurring the one after the other, until after the one hundred and fourth attack the patient died.

Leudet* also reported long ago, a case of eclampsia which passed, and the albuminuria even disappeared. Yet the disease returned again after a lapse of two months.

Return of eclampsia at a subsequent, or later child-birth is also a great rarity. Out of the 200 cases with which this article deals, the previous histories of only two cases, showed that they had suffered from eclampsia before. The one case was a secundipara, twenty-six years old, in which the first attack occurred thirty hours post-partum. The urine was highly albuminous. After a few attacks the urine was also found to contain blood-corpuscles, hyaline and granular cylinders. She ultimately recovered, after having eight attacks, which slowly followed each other during the course of twenty-four hours.

The second case was that of a woman, twenty-seven years old, who had given birth to five children. During the course of twenty-six hours, she had nine eclaptic convulsions. The urine was completely saturated with albumin, and hyaline cylinders. The eclampsia ceased, but the patient died twenty-four days later. At her first child-birth she had also had eclampsia.

I also recall a third case from my own practice, of return of eclampsia at a later birth. It occurred in a pregnant women, who had all the symptoms of an uncomplicated chronic interstitial nephritis. These symptoms included, copious diuresis,

* Winckel, *Lehrbuch der Geburtshilf*, 1889, page 587.

* *Gazette Hebdom.* 1854, I, 28.

moderate albuminuria and hæmorrhages of the mucous membrane. There were no evidences of any acute process. The patient also recovered from the second attack of eclampsia, but died six months later from atrophy of the kidneys.

Lumpe* had occasion to observe eclampsia at the first, second, and fifth childbirth of the same woman.

I have little to add to the symptomatology of eclampsia. Regarding the prodroma, I would lay stress upon the frequency of the so-called "stomach-ache" together with the much more frequent, indeed almost constant, headache. The meaning of this gastric pain is entirely obscure to us. The symptom is, however, one of great importance; for in the advanced months of pregnancy, when associated with headache, almost may be regarded as a positive prognosis of eclampsia. At least such is our experience. This gastric pain might be explainable by the theory that some patholgical substance is brought into contact with the mucous membrane of the stomach, where it not only causes pain, but more frequently vomiting. This idea seems not to be without good foundation, especially when the experiments made in the Hitzig Clinic in Halle, are taken into consideration, and their discoveries applied in this case. Here it was found that after subcutaneous injections of morphine, the drug was partly secreted upon the mucous membrane of the stomach.

As a prodromal symptom, in one case I have seen amaurosis occur while consciousness still remained. Very soon after this the first eclamptic attack occurred.

Regarding the single later attacks, it is well known that they occur without any warning whatever. Neither can I recall any literature on the subject that says differently. It was all the more astonishing, therefore, that we observed three cases in which there was an undoubted *aura*. In the one case the patient was able to state most precisely that before the attack she felt a sensation of falling. Indeed, she once called out, "I am falling!" and immediately after a convulsion occurred. The same feeling was complained of by another patient—a case of puerperal eclampsia—only that she felt this sensation after the eclampsia had left her. In all she had twelve post-partum convulsions. Simultaneously with the sensations named she had ocular and aural hallucinations. Recovery ultimately resulted.

In the second patient with *aura*, this was still more remarkable. The case was that of a primipara, twenty-one years old, who had six post-partum eclamptic convulsions. She had the sensation of clonic spasms in the extremities and, indeed, simulated the characteristic movements of the arms similar to those observed during the convulsions prior to the attack. Yet, it was only before three of the attacks that she was able to give this index as to their advent. Before the other three she had no warning. In this case it may not have been so much a case of *aura* as that of maintenance of consciousness during the first part of the attack, and this would explain why, after the third attack, deep coma and no *aura* occurred. I need scarcely add that both of these cases were those of undoubted eclampsia. The first patient gave birth to twins and, prior to their birth, had seven convulsions in nine hours. The attacks were quite typical, and the urine contained large quantities of albumin. The patient recovered.

The third case was that of a multipara, twenty-five years old, who had given birth to three children. After an easy and spontaneous birth of twins, perhaps after the lapse of half an hour, the patient suddenly loudly called the name of her husband, and immediately afterwards had the first attack of eclampsia. An hour and a half later, after she had suddenly called out, "It's coming!" she had the second attack. After three subsequent attacks the eclampsia ceased. Even the next day the urine contained a large amount of albumin and a few hyaline cylinders. The second day after the eclamptic attacks the patient developed psychosis with delirium from the poisoning. These symptoms lasted two or three days, after which she made a good recovery.

Regarding the conditions of the urine, as found in the cases observed by me, these differed from those observed by some other investigators, in so far that an abnormal condition was much more constant; indeed, almost exceptionally present. Out of the histories of the 200 cases, in 32 cases nothing is said regarding the nature of the urine. This is partly explainable by the fact that in several cases even catheterization would fail to bring any urine from

*Braun's *Lehrb. d. geb.* 1857, page 486.

the bladder. Out of the remaining 168 cases, in four cases only a very small amount of albumin, or, perhaps, only a trace, was found. All four were primiparæ; the one had only one attack; the second, three convulsions, ante-partum; the third, four convulsions, post-partum. All three could only be considered light cases. The fourth of these patients, however, who had hydramnion, had twenty-three cases in five and one-half days, and an hour and three-quarters after the last attack, was delivered by means of the forceps of a fœtus which had recently died. She recovered.

Entire absence of albumin was only observed in one case. The patient was a multipara (having given birth to seven children), forty years old, and had seven eclamptic convulsions.

In the remaining 163 cases the quantity of albumin in the urine was always considerable. In the large majority of these cases it was very copious, so much so that in a test-tube filled with urine the albumen would occupy half the space, or in some cases completely coagulated the entire bulk of the urine.

Fenstell* found albumin present in 79 out of 80 cases of eclampsia.

Unfortunately, I can say but little regarding the presence of formed elements in the urine, since the examination in this direction was often neglected, and still more frequently not noted. In 59 cases, in the histories of which these data are given, a negative finding occurred only in seven cases. In the remaining cases there were more or less greater numbers of sometimes hyaline and sometimes granulated cylinders. Often renal epithelial cells were found and, in four or five instances, blood corpuscles as well.

Regarding the presence of œdema, in 40 cases we have histories of its presence before the eclamptic attack. In 26 cases, according to the statement of the patients themselves, the œdema had appeared a few weeks previously; in 11 other cases it had existed for two or three months. In two cases the œdema is said to have been present for five months, and in one case even six months.

In the large majority of cases it was undoubtedly not the question of any long standing circulatory disturbance. This view of the case agrees with the usually tense nature of the œdema, together with the slight amount of swelling.

Icterus occurs but very rarely, and was observed in only two cases. The one case was a most severe one with fatal issue; the second was a lighter case, ten convulsions occurring after the birth of living twins, and the result being recovery. C. Braun recognizes the recurrence of icterus and speaks of a cholæmic eclampsia. Latterly, Stumpf has again called attention to this complication, which most probably is connected with a vascular rupture and hæmorrhage in the substance of the liver.

Before going on to a consideration of the pathological anatomy of the disease, I would say a few words on the loss of memory which I have noticed among patients recovering from eclampsia; occurring not only from the time of the first attack until the return of consciousness, but stretching into the period of convalescence, and often occurring a number of hours before the appearance of the disease.

In my experience, I met the patient whom I first saw twelve hours before the first attack and who, during a long consultation, talked most rationally and was in the full possession of her faculties. Yet, after her recovery from the eclampsia she had no recollection of either the consultation or other important events that occurred within twelve hours of the first attack.

This loss of memory might, under certain circumstances, be of legal importance.

(*To be continued in the next issue.*)

Loc. cit.

THE MANUFACTURE OF ARTIFICIAL ICE.

Ice was artificially produced in India long before the invention of machines for the purpose, a fact not generally understood. In the upper provinces, water was made to freeze by exposing it during cold nights, in porous vessels, or bottles wrapped in a moistened cloth. In Bengal, shallow pits were dug and filled nearly full with dry straw on which were set flat, porous pans containing the water tobe congealed. Exposed over night to a cool wind, the water evaporated at the expense of its own heat, and the consequent cooling took place with sufficient rapidity to overbalance the influx of heat through the cooled air above, or through the badly conducting straw below.

OPHTHALMIA NEONATORUM.

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A LECTURE BEFORE THE NURSE CLASS, THE MEDICAL STAFF, THE BOARD OF MANAGERS AND INVITED GUESTS OF THE PHILADELPHIA LYING-IN-CHARITY AND NURSE TRAINING-SCHOOL.

Ladies and Gentlemen.—When invited by the executive committee of your institution to deliver a lecture this evening upon "Ophthalmia, its causes prevention and treatment," I was in doubt as to whether I should attempt to treat of all the varieties of ophthalmia, or only of some particular variety that you would perhaps come in contact with more than any other; and after due consideration I arrived at the conclusion that it were better to talk of that variety which you will see more of as obstetrical nurses, so that you will recognize it when you see it and understand its causes, prevention and treatment.

The socket in which the eyeball is placed is lined by a mucous membrane known as the conjunctiva. This membrane commencing at the outer edge of the lids extends backward for a considerable distance, and is then reflected forward on the eyeball, that portion covering the lids being designated the palpebral conjunctiva, and that part covering the eyeball, the ocular conjunctiva. Now, ophthalmia is a disease of the eye, characterized by pain, redness, intolerance of light and excessive flowing of the tears, there being either a hyper-secretion or a genuine discharge, according to the variety; the inflammation for the most part being seated in the coats of the eyeball, or conjunctiva. The affection is sometimes known as conjunctivitis.

VARIETIES.—The varieties of ophthalmia are many, the chief among them being simple, muco-purulent, purulent, diphtheritic and phlyctenular, the difference between them being more the degree of inflammation than the character of it.

Simple, or as it is sometimes called palpebral conjunctivitis, is an inflammation of the palpebral folds of the conjunctiva, that portion which covers the eyeball itself not being affected. It is characterized by redness, intense itching, burning and a sensation as if small grains of sand were under the lids, causing a desire to rub the eye continually. The causes are numerous and varied—such as extremes of temperature, this being the case when people tell you they have taken cold in the eyes; foreign bodies, as pieces of coal dust or of shell which are blown into the eyes as one walks along the street; cinders from the locomotive of a railway train; exposure to a vitiated atmosphere—a room filled with tobacco smoke for example; loss of sleep, as I am sure many of you have experienced after you have been nursing a tedious case all night without having had your sleep on the previous day. And one of the chief causes is working without glasses when the eyes need them, or working with improperly fitted glasses. Indeed, we frequently have patients come to our offices complaining of nothing else but the burning sensation in the eyes, with agglutination of the lids upon waking in the morning, and almost always there is found some error of refraction which when corrected by proper glasses, the other symptoms disappear.

And these glasses should not be prescribed by an optician but by a skilled oculist, who has made a study of the eye from a medical and surgical standpoint—in other words, a graduated physician who has made a speciality of the diseases of the eye. It is frequently remarked by elderly persons that when they were young, glasses were not used nearly so much as now. To be sure they were not, but at that time there were not the educational advantages to be enjoyed as now. The child was not sent to school at so tender an age, and urged to work day and night in its endeavors to excel and gain a high degree of distinction. So many people did not gain a livelihood by the constant use of the eyes then as now. There were fewer professional men, fewer scholars—in other words, there was less eye work, and consequently less eye strain and glasses were not required.

The present age is one of push, energy and ability, and to obtain a position in, or near, the front ranks of the vast army of people who are constantly pushing forward in their endeavors to reach the highest mountain peak of success, requires much

persevering labor. It is almost impossible to attain any degree of distinction, in the present age, without at least a moderate general education; and an extensive education in one's particular vocation is absolutely necessary. To possess this requires much time and considerable use of the eyes, and in our efforts to hasten our success and excel our comrades, to reach the summit for which we have been striving, as quickly as possible, we use them inconsiderately; hence the weak eyes of ourselves and our children, to remedy which we are compelled to prescribe glasses, which correct the defects and relieve the ophthalmia and the strain. Unless the cause of the ophthalmia be removed, the disease in a short time becomes chronic, and the treatment is more or less prolonged; but if taken early, the cause searched for and removed, the recovery is rapid.

The muco-purulent variety is really an exaggerated form of the simple, the difference, as stated above, being only in degree. In fact the causes are the same, to which may be added contagion, the material having come from some other eye and having been transmitted either through carelessness in not cleansing the hands, or perhaps by means of a towel or handkerchief, this frequently being the method of inoculation.

The purulent is an exaggerated form of the muco-purulent, the dose of the poison, as it were, having been larger, the soil more susceptible and the discharge being pus.

The diphtheretic is a variety, fortunately for us, rarely seen in this country. As all diphtheretic inflammations it is characterized by the formation of a membrane, in this instance it being on the conjunctiva, and very adherent. The affection is inclined to be epidemic and is one of the utmost gravity.

The phlyctenular has the same symptoms as the muco-purulent, but is especially characterized by the appearance of small phlyctenulæ, or vesicles, on the ocular conjunctiva, and it is from these that it takes its name.

The muco-purulent and the purulent varieties, when occuring in the new-born child, are grouped together under the head of *Ophthalmia Neonatorum*, the variety that is of particular interest to you as obstetrical nurses, and to all who are connected with a Lying-in Hospital; and I have passed over the other varieties rapidly, each one of which would afford material for a whole lecture, merely mentioning a few of their chief symptoms, so that we might discuss this one at greater length. To be sure, gonorrhoeal ophthalmia is to be classed with the above group, but as this is only purulent ophthalmia from a specific cause it is hardly necessary to make another variety. The fewer the varieties the more easily understood is the disease.

As in all cases of ophthalmia, the real cause of ophthalmia neonatorum is a germ, just which particular one has not yet been fully determined, and the inoculation which takes place in one of two ways has been divided into the primary and secondary, the former taking place during, or immediately after, birth; the latter occurring in those cases in which there has been a sufficient length of time since the birth of the child to enable us to be sure that the affection is a result of post-partum inoculation.

The primary inoculation may be made in several ways. It frequently occurs in making manual examinations in face presentations; the eyelids are sometimes opened by instruments, allowing the vaginal discharge to enter; the mucous is sometimes retained on the lids after birth, sufficient care not having been taken to cleanse them thoroughly, and at a later period entering the eye causes the dreaded inflammation; and again, a very frequent cause is the direct introduction of the contagious material caused by the opening of the eyelids by the tense perineum as the head is passing through the external orifice. This may at first seem to you to be improbable, but when you consider for a moment how very tense the perineum is and how the head is elongated, causing the eyes of the child to bulge forward, it is very easy to understand how, in passing over this taut, elastic structure, stretched to its utmost capacity, the palpebral fissure may be opened and the contagion introduced. Clinically it has been determined that males are more frequently attacked than females, owing to the fact that the head is usually larger, and the children of primiparæ more frequently than those of multiparæ, on account of the tediousness of the labor and the lesser degree of perineal elasticity and the weak expulsive pains toward the end.

The secondary inoculation is caused by failure on the part of the person receiving the new-born infant to cleanse *immediately* everything from the eyelids, in the manner which I will explain to you later; by direct contact with unclean materials, such as towels, sponges, etc., and in a manner that frequently occurs, by bathing the face and eyes with the same water with which the body has been sponged. Of course irritants, like soap, bay rum, bright lights, etc., may cause a mild type of conjunctivitis, but not the horrible ophthalmia neonatorum of which we are speaking.

SYMPTOMS.—The symptoms, which may be divided into four stages, we are all familiar with. First, we have the period of inoculation, which usually is only a few hours; then a short period in which lymph, the exudative material that always accompanies inflammation in any part of the body, is freely secreted, and this is followed by the copious discharge of pus which is virulently contagious. There are present, of course, the characteristic pain, redness, swelling, intolerance of light, and a copious discharge. But if everything goes well the fourth stage is marked by the gradual disappearance of the secretion and a recession of the inflammation.

The pain caused by this affection is of the most excruciating character. To give you some idea how severe it is, an incident that happened several years ago, and has been recorded, is worth relating. At one time a slave ship sailing on the high seas had an outbreak of purulent ophthalmia on board. The ship was some distance from land and there were about three hundred slaves below the decks affected with the disease. No treatment was instituted at this time, but a little later some of them were allowed to come on deck to get some fresh air, and the suffering was so intense that most of those who had been allowed to come up committed suicide by jumping overboard. The great majority of those who did not meet this fate became totally blind.

PROGRESS AND TERMINATION.—If no complication presents itself and the disease does not pass into the chronic form, it usually lasts from three to four weeks. If it terminates directly in a cure, all of the symptoms gradually diminish, and the conjunctiva returns slowly to a healthy condition. If any complication arises, however, or if the case passes into the chronic form, the affection becomes one of the greatest gravity. Small granulations begin to grow on the lids and what is known as granular conjunctivitis supervenes, a disease very difficult to eradicate, and the results may be opacities of the cornea, that part of the eye through which we see. This, of course, causes more or less impairment of the vision, and if the disease progresses it may result in a perforation of the cornea, or ultimate blindness.

PROGNOSIS.—The prognosis of ophthalmia neonatorum is not so bad as one would at first suppose it to be. But as complications may, and do, arise at any stage of the disease, and as it is, as before stated, the cause of more blindness than any other single factor, it is almost criminal to neglect those precautions and that practice which experience has shown us reduces the percentage of cases almost to *nil*.

TREATMENT, PROPHYLACTIC.—The treatment of this disease is divided into two parts prophylactic and curative. In the former division come all of those means which are used to prevent the disease. First of all the laity should be instructed concerning the great danger of ophthalmia and that as soon as any inflammation of the eye of the new-born occurs, no matter how slight, it should at once be reported to a regular practitioner. This idea is put into execution in many foreign countries, so well understood is the danger of the disease, and in Sheffield the eye infirmary distributes cards which read as follows: "If a baby's eye run with matter and look red after birth, take it *at once* to a doctor. *Delay is dangerous* and one or both eyes may be destroyed if not treated *immediately*." This advice cannot be too greatly emphasized, and it would be an excellent step towards the prevention of much blindness if all, or indeed some, of our infirmaries followed the same practice. Better still if our municipal authorities would take the matter in hand and distribute printed circulars to each family, explaining the dangers of the disease and stating what should be done in case of an attack of it.

In some countries stringent regulations have been adopted as regards midwives and nurses, which are not only a protection to the infants but also to the nurses, as by following stated directions they are freed

from all blame. In New York state the following has recently been enacted: "Should any midwife or nurse having charge of an infant in this state notice that one or both eyes of such infant are inflamed or reddened at any time within two weeks after its birth, it shall be the duty of said midwife or nurse so having charge of such infant to report the fact in writing within six hours to the nearest health officer, or some legally qualifiad practitioner of the city, town or district in which the parents of the infant reside." Some such law enacted in every state would cause the number of the most hopeless and helpless or all people, the blind, to be reduced in our public institutions.

In the beginning of the second stage of labor the vagina of the patient should be thoroughly irrigated with a solution of corrosive sublimate (strength 1-2000), or a solution of some other germicide as the obstetrician may prefer, but according to my belief corrosive sublimate is the best in use at present. The hands of the physician and the nurse, as well as all the instruments employed, should be thoroughly disinfected. The fœtal eyes should be assisted to pass over the perineum without resting, for, as I have stated elsewhere, ophthalmia is frequently caused by the palpebral fissure being opened during the passage of the head over the tense perineum and the contagion thus introduced. The eyes can be made to pass over rapidly by hooking the middle finger of one hand over the perineum and drawing it downward.

As soon as the head is born, if there is time, the eyes should be wiped with small pieces of absorbent cotton or wool; and if there is not time before the birth of the body, it should be done before the cord is tied. In doing this the cotton should be loosely packed into small pledgets and the eyes very gently wiped from above downward, which will facilitate the removal of any foreign material that may have accumulated around the eyeball. As soon as this is finished two drops of a five-grain solution of nitrate of silver should be dropped into each eye, though of course this cannot be done without the order of the physician in charge of the case, and I regret to be compelled to add that many do not seem to think it is necessary to take any such precaution, notwithstanding the fact that statistics show this disease to be the greatest known cause of blindness, and that when the above prophylactic treatment is used the percentage is reduced from ten per cent. to almost *nil*.

The above is known as the Crédé method, which has been slightly modified, the original being to instill one drop of a ten-grain solution of nitrate of silver into each eye. Ascertaining that as a rule this solution was stronger than required and excited too great a degree of inflammation, it is my custom to have instilled into each eye two drops of a five-grain solution, which, though it may contain the same amount of silver, does not affect the conjunctiva so severely as does the stronger solution.

There is another method, known as the Hégar-Korhn, which consists in wiping the face and eyes immediately after birth with a solution of corrosive sublimate (strength 1-1000), and though statistics show very good results, I prefer the instillation of the astringent, believing it to be the surer and better method of prevention. In one thousand cases treated by the Crédé method not a single case of ophthalmia developed, while without it about 10 per cent. of all infants are affected with the disease. In the foundling hospitals of Paris the percentage of cases twenty years ago was from 80 per cent. to 90 per cent., while to-day it is 0.2 per cent., it being compulsory to use the Crédé prophylactic treatment.

The face of the child should never, under any circumstances, be washed with the same water with which the body has been bathed, and different sponges or pieces of flannel should be used for the face and body. The reason is understood without being given.

It is very important that you should always wash your hands thoroughly after adjusting the mother before you touch the child, and you should guard against exposing it to any draughts, bright lights, etc., or allowing any soap to get into the eyes.

Curative.—Should you be so unfortunate as to have the disease occur the child must be isolated at once, and the physician notified.

If one eye only is affected the other should be guarded by covering it with a light bandage. The physician will instruct you to cleanse the eye every hour (perhaps more or less frequently than this, depending entirely upon the severity of

the case) washing it first with warm water then with a solution of boric acid.

The best way to do this is to have some one sit in front of you and hold the child so that its head rests between your knees, with its face looking upward, your lap being protected with a piece of gum cloth or a towel. The person in front holds the child's legs under her left arm and supporting the body on her raised knees, has her right hand at liberty, with which to assist you. In this position the eyes can be irrigated and the applications made to the conjunctiva with the least possible trouble.

To reduce the inflammation cold compresses are used. I prefer to have these made out of small pieces of lint, about the size of the one I show you here, and kept on ice which cools them more thoroughly than water. They should be placed on the eye four in thickness and at first they should be changed every minute, the time between the applications being gradually lengthened. The compresses not only reduce the inflammation by processes which I will not describe to you this evening, and which are readily understood by every practitioner; but it is also claimed that they either destroy or prevent the development of the germ that causes ophthalmia, it having been proved by experiment that the said germ cannot develop at, or below, a temperature of 32° F.

The eyelids are everted at stated intervals by the physician and applications of a solution of nitrate of silver made to the mucous membrane, great care being taken to apply it to all the folds. This stops the growth of the germs and substitutes a healthy for non-healthy inflammation.

Other applications rather than nitrate of silver are frequently made, among them being insufflations of iodoform, calomel and solutions of tannin, corrosive sublimate, peroxide of hydrogen and many others too numerous to mention. In my own experience I have always found the solution of nitrate of silver to be the best, though it should not be used indiscriminately, nor applied, as many advise, with a camel's hair brush; but small pieces of cotton should be rolled on the end of a stick, as I show you here, dipped into the solution and touched to all parts of the conjunctiva, one being used for each eye, and burned immediately afterward, as should be all the pieces of cotton or lint which come in contact with the eye. But no method will be of avail unless the physician is ably supported by the nurse in the thorough and frequent cleansing of the eye; for no matter what the character of the applications may be they will not rid the eye of the micro-organisms nor prevent their multiplication unless the nurse, with whom the case is entrusted, keeps the organ cleansed of all discharge during the intervals between the applications. And when you have become tired and weary and exhausted from nursing such a case and feel disposed to neglect it, even if only for a few moments, let me beg of you to look at the subject from a humane point of view, for I know of no act of charity or benevolence more praiseworthy than that of saving the eyesight of an infant unable to help itself, and thus preserving its future usefulness for its family, for mankind at large and for its Maker; and in after years when that same infant, now grown to manhood or womanhood, is able to realize the escape it had from blindness, much of which was due to your careful nursing and your faithful attention, though you may not be aware of it, he will heap upon your head heartfelt blessings and praises, such as we all desire and can only obtain through our own efforts.

I have added to these remarks some suggestions collected from various sources which I have placed together as so many rules. In giving them to you I do so in part as a recapitulation, and perhaps am guilty of repetition; but if in so doing I am enabled to impress upon your minds some important facts relating to the disease and its prevention, so that you will in the future use them, I feel quite confident that you will assist very much to lessen the number of cases of ophthalmia neonatorum, and thereby in reducing the number of blind in our public institutions; and the purpose of my lecture will have been accomplished.

1. Before making a vaginal examination always cleanse the hands thoroughly with soap and warm water, followed by some antiseptic solution, taking care not to forget the finger-nails.

2. During labor assist the eyes to pass rapidly over the perineum.

3. Always cleanse the eyes of the infant in the manner I have explained to you *immediately* after birth.

4. Do not use the same water, for bath-

ing the face and eyes, with which the body has been bathed, and always use different sponges or pieces of flannel.

5. Never employ one towel for two persons. Let everybody have his own.

6. Be careful not to allow any soap or bay rum to enter the eyes.

7. Keep the light in the lying-in chamber very dim, or have it shaded with some dark material, green being the least trying and the most restful to the eyes.

8. Always burn *immediately* everything that has come in contact with the ophthalmic discharge.

9. Instruct the laity, whenever the opportunity presents itself, of the great danger of ocular affections of the newborn, and the necessity of consulting a physician as soon as they are discovered.

And to the members of the profession present I would add:

10. Always use the Crédé, Hégar-Korhn or some such method of cleansing and stimulating the eyes of a new-born infant.

EYE AFFECTIONS IN MALARIA.

Bagot (*Ann. d'Oculist.*, January 1892) records the following cases which occurred at Guadeloupe. The first patient was a mulatto boy of 15, who had a severe bilious remittent fever with gastro-intestinal symptoms and coma; this lasted two or three days, and immediately afterward his sight began to be affected; three months later it was found that he had a soft cataract in each eye. The second patient was a mulatto girl of 16, who also had an attack of grave malarial fever lasting three days, and immediately afterward her sight began to fail; nine months later she also was found to have a soft cataract in each eye. The third case was that of a little white girl, who had an attack of malarial fever with delirium, convulsions, and loss of consciousness lasting two days; then, for a whole day she complained of red vision, and after that her sight rapidly deteriorated until the fifth day, when she was absolutely blind. An incomplete opthalmoscopic examination at this time revealed a retinal hæmorrhage in the neighborhood of each macula. A year later she had atrophy of both discs; with the right eye there was perception of light; the left had improved more and she could see to go about, and had fairly good color perception.—*Brit. Med. Jour.*

Communications.

DIPHTHERIA.*

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Diphtheria may be defined as a specific contagious disease, characterized by pronounced constitutional symptoms and inflammation of the mucous membrane of the fauces and upper air passages, with exudation of inflammatory lymph, which rapidly becomes formed into false membrane.

It has long been recognized as one of the zymotic fevers. Many English authors consider it a constitutional disease with local manifestations, but among continental physicians and American writers there are many who regard it as a primary local affection with secondary constitutional symptoms. Personally, I am inclined to accept the former view, and can see no more reason for regarding this as a local disease than for regarding vaccina in the same light. To me, the peculiar false membrane formed in the fauces appears analagous to the peculiar vesicle developed after inoculation with vaccine virus; and the fact that there is a distinct period of incubation extending sometimes over many days before there is any development in the fauces, together with the fact that in some instances the disease runs to a fatal termination within a few hours and before there has been any appreciable local manifestations, seems to prove this position.

The disease manifests itself in the throat by hyperæmia, soon followed by the exudation of inflammatory lymph and deposit of false membrane in one or more places upon the surface, and this membrane may ultimately extend to the air passages or may be found upon wounds which may exist in other parts of the body. Upon post-mortem examination of those dead of the disease, blood clots are usually found in the heart or large arteries. The lymphatics at the angles of the jaw are enlarged and the kidneys are generally deeply congested. Various bacteriæ have been found in the mouth of those suffering from diphtheria, most of which, however, may also

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be found in the bucal secretions from healthy individuals.

Ætiology.—The disease is undoubtedly contagious and may be transmitted from man to lower animals and vice versa, but the degree of contagiousness varies in different epidemics. The affection is generally believed to be due to a specific micro-organism, the identity of which is not as yet fully established. The researches of Pruden in 1869 pointed to a streptococcus as the probable cause of the disease. but most bacteriologists now attribute it to the Klebs-Loffler bacillus. This bacterium is a microscopic rod about the length of the tubercular bacillus, but twice its thickness It is usually more or less bent, with rounded extremities, one or both of which may be thickened, giving the club or dumb-bell appearance. It is immobile and contains no spores. These bacilli do not readily absorb the common analine stains, but may be colored by the solution of Loffler's methylene blue, the coloration often being most intense at the extremities. According to Amand Ruffer, these bacilli are found most abundantly in the superficial portions of the false membrane, and nearly all experiments go to prove that they do not often enter the lymphatics or blood vessels. Therefore, of itself, the bacillus is apparently innocuous, but it secretes a virulent toxalbumen or ptomaine easily absorbed, which, when injected into the circulation, produces constitutional symptoms similar to those of diphtheria. Numerous clinical observations and experiments have, however, demonstrated with an equal degree of certainty that pseudo-membranous inflammation is often produced independently of this bacillus, as for example, that resulting from surgical injuries to the throat, or various chemical caustics; and they have also shown that certain exudative inflammations supposed to be of microbic origin, as for example, those frequently observed in scarlet fever and measles, are not attended by the development of the Klebs-Loffler bacillus. These latter inflammations have been termed psuedo-diphtheria, and it is stated that they can only be distinguished from true diphtheria by the absence of the Klebs-Loffler bacillus, by their being followed by paralysis, and by not being attended by a peculiar form of albuminuria which occurs in true diphtheria independently of dropsy or uremic poisoning. The necessity for assuming that there are two varieties of diphtheria, seems to me to justify the statement made in the beginning, that the identity of the micro-organism, which is supposed to cause the disease is as yet uncertain.

Primary inflammation of the fauces apparently greatly favors the development of diphtheria, and its development and progress seem to be largely influenced by bad hygienic surrounding, such as impure drinking water, sewer gas, and the emanations from decaying vegetables and unclean cellars; but it is doubtful whether any of these conditions can of themselves produce the disease.

The most frequently predisposing cause of diphtheria is exposure to cold, more particularly in the spring and fall months, when the temperature of houses is liable to be kept at from 65° to 68° F. At this time adults moving about the house do not realize the necessity for fire, but the little children upon the floor are exposed to a temperature two or three degrees lower; or during the morning or evening, they are allowed to run about for sometime in their night clothing and thus contract colds, which are peculiarly prevalent at these times and which favor the development of diphtheria.

Symptomatology.—After a period of incubation varying from one to eight days, this disease is usually developed in young children with pronounced constitutional symptoms, such as headache, drowsiness, fever, thirst, and sometimes vomiting and diarrhœa. The little one usually complains of stiffness of the neck, and within a few hours of sore throat. In older children or adults, the symptoms are commonly much less pronounced, and the disease develops more gradually;the sore throat is attended by sensations of dryness and slight pain, with an inclination to frequently hawk and clear the throat. Usually within twelve to thirty-six hours a false membrane begins to form upon the tonsils and in rare instances an erythematous eruption appears upon the skin. The pulse is rapid and as the disease progresses, becomes small, feeble and intermittent. The temperature at first seldom rises above 101° or 102° F., but on the appearance of false membrane it usually falls and may even become subnormal. During the third or fourth day of the attack it is likely to rise again, indicating in favorable cases sup-

puration and oxfoliation of the false membrane; or in those which are progressing unfavorably, extension of the disease to the larynx, the lower air passages, or to the intestinal canal. A sudden fall of temperature after four or five days is a symptom of grave import. When the disease extends to the larynx the voice soon becomes affected and may be weak and hoarse even before the false membrane is deposited, but with the deposit of pseudo-membrane upon the vocal cords the voice becomes aphonic, the cough less intense, and dyspnœa develops proportionate to the amount of obstruction. In this condition the respiration becomes noisy and stertorous and the dyspnœa is constant, aggravated from time to time by spasms of the laryngeal muscles. With these paroxysms all the distressing symptoms of suffocation appear.

The deposit of false membrane frequently extends to the naso-pharynx or nares, causing obstruction and a sanious discharge, and later epistaxis. The tongue is commonly heavily coated and there is a peculiar odor of the breath, which is almost pathognomic. Anorexia, nausea, and vomiting are common, especially when the kidneys are much involved, and albuminuria is present in nearly all cases from early in the disease. The glands of the angles of the jaw are enlarged, and as as a rule, the greater the swelling, the more severe will be the attack. Inspection of the throat reveals: first, congestion; and shortly after, thin strips of yellowish-white false membrane, which rapidly extend over one or both tonsils, and in more severe cases, to the surrounding mucous membrane. With the progress of the disease, the membrane becomes grayish, brownish, or even almost black in color. It has the appearance of involving the mucous membrane and being slightly elevated above its free surface. When exfoliated, or forcibly removed, an ulcerated granular or bleeding surface will be found beneath it, though not usually co-extensive with the false membrane. When the glottis becomes obstructed, the respiratory movements become slow and labored and recession of the soft parts of the chest above the clavicles, at the ensiform appendix, and over the false ribs is noticed with each inspiratory movement. The skin is cold and pallid, and may be bathed in cold perspiration. The lips, finger nails and ears appear livid, and as the carbonic acid poisoning progresses, the patient may become extremely restless, or fall into a semi-comatose condition. With the paroxysmal spasms of the glottis, the well known symtoms of imminent suffocation are developed and death may speedily ensue.

Diagnosis.—Diphtheria is not likely to be mistaken by the experienced physician for any disease except follicular tonsillitis and simple membranous sore throat; though in some cases, it may be a difficult matter to distinguish between diphtheria and the pseudo-membranous forms of scarlatina or measles. The essential points of difference between diphtheria and follicular tonsillitis are; in follicular tonsillitis there is higher temperature, commonly two or three degrees more than that of diphtheria; there is much more pain in the throat, and difficulty of opening the mouth which is not usually present in diphtheria, the swelling of the tonsils is greater, and there appear a number of small yellow spots where secretions have collected in the follicles, instead of one or two uniform patches of false membrance spreading over a considerable part of the throat.

In simple membranous sore throat, at first there are numerous herpetic vesicles, but after two or three days these are covered with a membrane similar to that of diphtheria, though it is not so thick and more easily removed. Commonly also, there are several patches of this false membrane, and herpes labialis is apt to occur at the same time. The pain is simple membranous or as it is sometimes known, herpetic sore-throat, is usually very much more intense than in diphtheria.

There is usually no difficulty in distinguishing between diphtheria and scarlatina or measles, but sometimes in either of these affections the deposit of false membrane in the fauces may cause an appearance very like that of diphtheria. There is a question whether in such cases there are the two diseases combined, or whether the pseudo-membrane, as claimed by bacteriologists, is entirely different in its origin from true diphtheretic membrane.

Prognosis.—The prognosis of diphtheria is always grave and we can never assure the friends that the patient is out of danger until he has been well for three or four weeks, because of the serious sequelæ which sometimes follow. I have known cases to terminate fatally within twelve

hours after the beginning of the attack, but in the majority of serious cases a fatal termination does not occur before the fourth or fifth day, and in a considerable number the struggle for life may continue five or six weeks. In some epidemics of the disease a large percentage of patients recover; but in others twenty-five or thirty, or even a large per cent. prove fatal. The deposit of false membrane in the nose, or naso-pharynx, or intestines; the occurrence of extreme pain in the ears and throat, of purpuric spots upon the skin, or of epistaxis or other hæmorrhages, and the presence of persistent anorexia, vomiting, diarrhœa or suppression of urine, are all indications of grave import. Patients may die slowly from asthenia or more quickly by suffocation, or they may be carried off by heart failure or convulsions. Not infrequently paralytic symptoms follow the attack about the third week, but except in cases where the respiration or circulatory centers are involved, recovery usually occurs, though it may be delayed for weeks or even months, and sometimes the paralysis is only partially recovered from, more or less loss of muscular mobility remaining permanent.

Treatment.—There are few diseases in which the methods of treatment are more numerous; a fact which may be explained by the great inutility of the majority of means adopted. So much depends upon the condition of the patient when attacked, upon his hygienic surroundings and the variety and nature of the particular epidemic, that physicians are necessarily led astray in estimating the effect of remedies employed. During the early portion of a severe epidemic a very large percentage of patients may die whatever methods are used in the treatment; but later on the cases become less and less severe and the fatality greatly diminishes, regardless of the treatment employed. However, the remedies which are in use during the latter part of the epidemic are liable to receive all the credit.

Whenever diphtheria appears in a household, the greatest care should be exercised to isolate the patient, and all other children should be removed if practicable. The rooms occupied by the patient should be kept carefully closed, the doors covered with sheets constantly moistened by antiseptics, and the patient and nurse should have no intercourse whatever with other members of the household. The sick rooms should be kept warm and thoroughly ventilated, and finally when the attack subsides, the utensils and clothing used in the sick room should be disinfected or destroyed, and the room thoroughly fumigated and aired before it is again used; even then it is well to prevent children from occupying the room for several weeks afterwards.

In the beginning of the attack, ice taken freely into the mouth tends to relieve thirst and reduce congestion and apparently markedly to limit the progress of the disease. Of even more importance has seemed to me the application externally of ice bags or the ice water coil of metallic or rubber pipe applied to the throat. When ice bags are used, they should be narrow and long and should be about half filled with pieces of ice about the size of filberts; the bag may then be folded in a handkerchief and tied so that it will extend up to the ears on both sides. The ice will need to be changed about every hour. Occasionally patients complain of pain when cold is employed and in these, very hot applications will be found to answer a better purpose, but whether hot or cold be used, it must be continuous; otherwise more harm than good will result.

As soon as the membrane begins to separate, hot applications appear to be more useful than cold. The disease usually causes dangerous prostration. Therefore the patient should be well nourished from the beginning. Liquid diet in the form of beef tea, broth, or better yet, milk, should be given at regular intervals and in large quantities; about half a pint or its equivalent being used as often as every third hour. Alcoholic stimulants are recommended early by many practitioners, but to me they seem unnecessary and undesirable until the stage of depression supervenes. Acting on the principle that bacteria cannot live in acid solutions, some physicians recommend the free use of acidulated drinks or gargles, and this possibly explains the reputation recently attained among the laity, by pineapple juice, as a cure for diphtheria. Many substances have been used with the hope of removing false membrane; the simplest of these is steam, which may be impregnated with the time-honored lime water and applied by the croup tent or any suitable atomizer, but it is extremely doubtful whether lime

in any form is ever applied in sufficient quantity to appreciably affect the pseudo-membrane.

Lactic acid is one of the most powerful solvents for pseudo-membrane. It has been highly recommended in about 15 per cent. solution to be frequently employed as a gargle or spray; and in full strength to be carefully applied by the physician twice daily to the false membrane. Tripsin, resorcin and papain have all been used for their solvent effects upon the membrane, but they seem to have little if any influence upon the progress of the disease. Tannic acid and alum are used to astringe the false membrane, and insufflations of sulphur have become extremely popular with the laity, but none of these seem to have much effect upon the disease. Solutions of mercury-bichloride one to one thousand or weaker; of carbolic acid, one to three per cent.; of potassium permanganate, one per cent.; liquor sodæ chlorinatæ, five per cent.; of chloral, about thirty per cent.; or of sulphurous acid, from five to ten per cent., have all been highly recommended, from time to time, as gargles or sprays to destroy the poisonous germs in the throat. Peroxide of hydrogen is also used for the same purpose, either diluted with an equal part of water, or in full strength as obtained from the pharmacist. Tincture of myrrh, strong alcohol, and tincture of the chloride of iron have also been recommended, and occasionally tincture of iodine or a strong solution of nitrate of silver are used. I believe that strong applications often do more harm than good, and any remedy which causes the patient pain for more than five minutes is likely to be injurious. Tincture of iron has seemed to me one of the best remedies for local use, as it has also appeared for internal administration. Recently I have adopted as a local application, either by means of spray or gargle, a saturated solution of boric acid in cinnamon water. The researches of Roux and Yersin in 1889 demonstrated that the toxicity of cultures of the diphtheritic bacillus are greatly diminished by the addition of carbolic acid, borax or boric acid, and the experiments of Dr. G. V. Black, reported in the *Dental Review* for February and March, 1889, have shown that the oil of cinnamon, 1 to 2000, is a most efficient germicide; therefore, a combination of these two appears especially suited to the destruction of the diphtheritic bacillus. This application is neither unpleasant, painful nor dangerous, and from my clinical observation, it appears very effective. My common practice in diphtheria is to give tincture of iron in large doses, about one minim for each year of the child's age, combined with an equal quantity of glycerine and enough syrup of tolu to make one drachm. This dose is administered every hour in serious cases, or once in two hours where the symptoms are less severe. The patient is first given three or four swallows of water, so that the medicine will not prove irritating to the stomach, then the medicine is administered in as concentrated a form as can be taken without causing pain; the patient is directed to hold it in the throat as long as possible, thus obtaining the effect of a gargle, and then it is swallowed. Usually as much as ten minims to the drachm will not cause pain in the early stages of the disease, but later on it may be necessary to dilute the dose with water. The gargle or spray should also be used every hour. Thus, one or the other would be administered every half hour except during the night, when it is often necessary to allow the patient to sleep. However, when the disease is progressing it is sometimes unsafe to allow the patient to go more than half an hour without receiving either the gargle or the solution of iron. But I would strongly deprecate awakening the patient more often than is necessary for this purpose, and as soon as the membrane ceases to spread, I would allow the child to sleep one or two hours rather than disturb it to give the medicine. Quinine in moderately large doses may also be given judiciously, and as the stage of depression comes on, alcoholics should be used freely, it making little difference in the progress of the disease whether they be in the form of wine, whiskey or brandy. Children will often take much more readily than any of these a mixture of equal parts of alcohol and syrup of tolu which is practically of the same strength as good whiskey. When the heart fails, no remedy is of so much value as some of the preparations of nux vomica. The tincture of nux vomica although liable to variation in strength has seemed to me to act more favorably than strychnine. Which ever preparation is adopted it must usually be given in large and frequently repeated

doses; to a child of five years of age I have given one or two minims of tincture of nux vomica, which equal two to four drops, every hour for many days, with the greatest benefit. I should not hesitate as long as the heart continued weak to give half a minim(that is one drop) every hour until the constitutional effects as indicated by twitching of the tendons. were developed; the doses should then be slightly diminished, or the intervals between them prolonged. Within the past few years the bichloride, and other preparations of mercury have been largely used in the treatment of diphtheria in doses often much larger than could safely be administered to adults. I have myself used freely the mild chloride of mercury (calomel), with most happy results in diphtheritic laryngitis, but I have not favored large doses of the other preparation believing that a system already struggling against the virulent action of the toxalbumins is poorly fitted to withstand poisonous doses of bichloride of mercury and its congeners. The mild chloride of mercury has been highly recommended for diphtheria and I have no doubt that it is beneficial, especially as a cathartic. I have found it most efficacious in instances of diphtheritic laryngitis, and have never known it to do harm even when given in very large doses.

Among other remedies which have received the sanction of good authority for the curing of this disease, are cubebs, copaiba, potassium chlorate, the sulpho-carbolates and sulphites of sodium and potassium, and the salicylates and the benzoates of potassium, sodium and ammonium. Indeed, there are few remedies of any potency in any disease which have not been tried for this affection and which have not, for a time at least, received more than merited praise.

When the disease extends to the larynx, non-depressing emetics are sometimes useful to dislodge the false membrane and the mild chloride of mercury in large and frequently repeated doses has seemed to me most beneficial in preventing its deposit. I have given calomel in such cases in doses equivalent to half a grain for each year of the child's age, and repeated every one or two hours according to the severity of the case, until its effects upon the bowels were noticeable. It is surprising how much of the remedy may be taken in such cases before its characteristic effect upon the stools occur. I have seen a child two or three years of age take 30 or 40 grains before the bowels moved. As soon as the effects of the remedy are noticed upon the stools, the dose should be diminished in size and frequency and as soon as the dyspnœa is relieved, the remedy should be withdrawn. Unfortunately, whatever remedies are employed, the false membrane will frequently extend to the glottis, as indicated by difficulty of breathing, blueness of lips and finger nails, and recession of the soft portions of the chest walls during inspiration, when these symptoms occur, no time should be lost in adopting operative measures, although a certain number of cases may be cured by mercurials or a small precentage might recover from the unaided efforts of nature.

It is not safe to wait for nature or the slow effect of medicine in these cases, for statistics have shown that about 95 per cent. will prove fatal when the larynx has become involved, unless operative measures are adopted and even with these only 25 or 30 per cent. are saved. One of two operations may be adopted, the one to be preferred depending somewhat upon the age of the child and its surroundings. Other things being equal, in a child under five years of age, I decidedly prefer intubation by O'Dwyer's method, though in older children it is not quite as satisfactory as tracheotomy. Even in quite large children intubation has been found useful, particularly when the graver operation will not be permitted. I would recommend that it be tried first in all cases, because of the ease and rapidity with which it can be performed, the avoidance of a wound liable to a secondary infection and the ready consent of parents, and finally, because it is no bar to the subsequent performance of tracheotomy, should this severe operation appear necessary.

I hope, gentlemen, that you will try intubation in these cases, and I believe that none of you will fail in successfully introducing the tubes. The confidence gained by two or three intubations will cause the physician to recommend the operation earlier, and thus protracted dyspnœa and the consequent pulmonary congestion and œdema will be prevented and many lives will be saved that would be lost if the operation were delayed until suffocation became imminent. There is only one accident which is likely to occur in the

performance of intubation, namely, the crowding downward of loose membrane before the tube; this in a few instances has caused speedy death. To relieve the difficulty all that is necessary is to at once withdraw the tube, when the loosened membrane will be drawn out with it or will be coughed out immediately afterwards; but in some instances this happy result is not obtained, and, therefore, it is well for a physician always to have a tracheotomy set at hand when about to perform intubation, so that the trachea may be opened at once if necessary. I have never found it necessary to resort to tracheotomy at such times, but have long felt it best to be prepared for any emergency that might arise. It is best before doing intubation to explain to the friends that there is a bare possibility that the child may die before it is completed, because of this accident. When tracheotomy for any reason becomes desirable, it should be done as soon as practicable after marked inspiratory recession of the chest walls indicates serious obstruction of the glottis.

36 Washington street.

PATHOLOGICAL ANATOMY OF EXOPHTHALMIC GOITRE.

Mendel (*Deutsche medicinieche Wochenschrift*, February 4, 1892) after calling attention to the poverty of medical literature in cases of exophthalmic goitre with definite lesions, reports a case observed by himself, over a term of two years, which was a typical case of this disease. The patient died of cardiac paralysis. At the post-mortem there were no gross lesions observed, either in the brain, spinal cord, sympathetic or vagus. Careful microscopic examinations were made, however, of all these parts. The cortical substance of the brain, the different ganglia, the cerebellum and the vagus were entirely normal. Two changes were, however, noticed; first, a difference between the two restiform bodies; in a series of 1,210 sections of the medulla the left restiform body was seen to be atrophic; second, there was evident atrophy of some of the solitary bundles in the right restiform body. The author calls attention to numerous experiments upon lower animals, where symptoms of exophthalmic goitre have been caused by a destruction of restiform bodies.—*Univ. Med. Mag.*

FRACTURE OF THE LOWER JAW.

By A. O. STIMPSON, M. D.,
THOMPSON, PA.

On 1st March, 1888, I was called to go and see Henry J. Cleveland of our town who was reported as seriously injured about the face. On examining the case I found a contused bruise of the left side of the lower jaw, with a double fracture of lower jaw, so that the incisor and canine teeth were turned out upon the chin. The accident was caused by the man's face being compressed and bruised from the sliding of a load of hay in a rack from the wagon toward the hay mow in the barn while attempting to unload it.

The lines of fracture are indicated by the

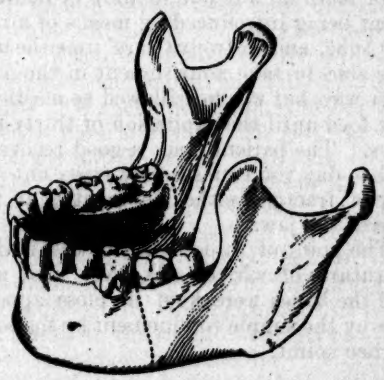

Fig. 1.

dotted lines (Fig. 1). After washing and bathing the face and jaw with an infusion of arnica-blows and cider vinegar (used warm), I applied a splint as follows: I took a piece of sole leather of the right length to extend around the lower jaw and split the splint like this (Fig. 2). I then sewed a bandage of the

Fig. 2.

appropriate length to each tail of my improvised splint, and after soaking the leather in warm water so as to mould it to the shape of the jaw, after padding it with

absorbent cotton, I fastened the lower segment of the splint over the vertex of the head and the upper one on the back of the neck in this way (Fig. 3). I extracted one of the in-

FIG. 3.

cisor teeth on left side to allow of nourishment being introduced by means of a rubber tube, and in twelve days' time the man was able to take nourishment in the ordinary way, but was not allowed to masticate any food until the expiration of thirty-two days. The patient made a good recovery, and to-day you can scarcely trace out the line of fracture, either in front or at the side of the jaw.

The point of interest in this case is that no sutures of wire or silk were used and still the bones were kept in close apposition by the simple confinement by the sole-leather splint.

HYDRAMNIOS AND PRESENTATION OF HEAD OF ANENCEPHALOUS MONSTER DIAGNOSED BEFORE BIRTH.

Pinzani (*Riv. di Obstet. e Gin.*, 1891, No. 24) attended a patient in whom, four days before her confinement, he diagnosed the presence of an anencephalous fœtus in an instructive manner. It was evident that the long axis of the fœtal body was vertical, and careful external examination indicated head presentation. On vaginal exploration, an irregular surface with numerous bony prominences was found presenting. Pressure on this surface set up convulsions in the fœtus; this phenomenon was observed on several occasions. Hence, face presentation was out of the question, and an anencephalous monster evidently present. The patient was delivered of a female anencephalous fœtus, which showed signs of life for a short time. Childbed was perfectly normal.—*Brit. Med. Jour.*

CLINICAL NOTES ON A CASE OF HYSTERIA IN A BOY EIGHT YEARS OF AGE.*

BY SAMUEL AYRES, M. D.
PITTSBURG, PA.

The rather infrequent occurence, or perhaps recognition, of hysteria in young children, induces me to report the following interesting case:

William T., *æt* eight years, had good family history and previously good health. In the early part of December, 1891, while attending school, he became involved in a quarrel with four boys, who pitched upon and struck him about the face and head, there being left, however, no visible bruises or marks of injury. Immediately after returning home that evening he complained of severe headache, not specially localized. This continued without abatement for about two weeks, when the family physician, Dr. Wallace, of Ingram, was consulted. After treating the patient a few weeks there was still no improvement in the headaches, but otherwise the boy's general condition was not much impaired. He had not been allowed to attend school since the accident, but played about the house, had a fair appetite, bowels were regular, and there was no abnormal variation in temperature or pulse. But he was pale, and complained of almost constant headache. On the advice of Dr. Wallace, his eyes were during this time examined by Dr. Geo. W. Allyn, who found a low degree of astigmatism and prescribed glasses.

On the morning of January 17th, last, the boy had a fainting spell before breakfast and became very pale, weak and languid, complaining severely of the usual headache. At that date Dr. Wallace referred the patient to me, and the boy was brought to my office on the 18th of last January. A careful examination was made. Mentally the boy seemed clear, and gave prompt answers to all questions. His face was rather pale, the pupils widely dilated, contracting slightly to bright light. The tongue was extruded straight, and not much coated. The pulse about 80°, temperature normal. No abnormal

*Read before the Allegheny County Medical Society, May 10, 1892.

motor or sensory phenomena were noted. The optic discs were normal. The urine contained neither albumin nor sugar.

The headache, of which he only complained, was referred to the vertex and forehead. The nature of the case was not entirely clear to me. The cause was obviously connected with the injury to the head, as he had been perfectly well up to that time. I therefore inclined to the opinion that the case was one of simple neuralgia, or else a slight injury to the cerebral membrane, perhaps a localized patch of congestion in the frontal region.

On this theory I prescribed small doses of sodium iodide and sodium bromide; also one grain of ergotin three times daily, and blistered each mastoid process. In three or four days the boy was brought back to my office without any improvement in the headache. The same treatment was continued excepting that ⅛ grain of protiodide of mercury was substituted for the ergotin. A mild galvanic current was passed for a few minutes from forehead to occiput. The parents were directed to discontinue this treatment in two days if he were not better, and to give tablets containing three grains of antipyrin every three hours. The day following this I was summoned in great haste by the father to meet Dr. Wallace, the former stating that he thought his son was dying. It seems that the lad complained of being sleepy and tired, and sitting on a rocking chair apparently went to sleep, but at once exhibited some general convulsive movements, and became wildly incoherent. When Dr. Wallace and I arrived, the boy was in bed and appeared rather bright and talked rationally. His pulse was about 90°, temperature normal. He complained, as usual, of the headache. When questioned as to the spell he had just had, he seemed to remember nothing about it. Very soon he was seized with one of these paroxysms, consisting of symmetrical clonic spasms of the forearms and hands, the same spasmodic movements passing to the lower extremities, the whole attack lasting scarcely a minute. There was apparently no loss of consciousness; no frothing of mouth; no change in the color or expression of face. At another time there would be a rapid turning of the head from side to side, or contortions of the entire body, or opisthotonus, accompanied by profane utterances, or other incoherent outbursts, terrifying and shocking his parents. We withdrew the iodide, increased the bromide to 10 grains every three hours, and gave a little tr. of opium and aconite. Broths and other concentrated nourishment were given and accepted at frequent intervals. At our consultation the following day the boy was rather worse. The paroxysms, above described, had been more severe and frequent. The breathing at times had been irregular and jerky, diplopia had been observed. The head was occasionally retracted and bored into the pillow. The parents stated that he had been very "flighty"; that at times his eyes were glassy and upturned and that they thought in one of these spells he would die. He had taken nourishment and slept fairly well, though during sleep there was much muscular twitching and catching respiration. When we entered the room the boy greeted us, and smiled and talked intelligently. We soon got him out of bed and tried to have him walk. His gait was very unsteady and he settled well back on his heels, inclining to fall backwards. But with assistance he walked some.

Replacing him in bed and retiring from the room we slightly opened the door. In a few moments he had one of the paroxysms above described. Gliding in swiftly I pressed firmly on the supraorbital nerve. The boy immediately ceased his contortions, cried with pain, and said I had hurt him. We desired no further proof of the nature of the case, and the subsequent history confirmed the diagnosis. On appropriate treatment, of tonics, outdoor exercise, and the ignoring of his headache by the family, the boy gradually recovered, only once after having hysterical attack, which was promptly arrested by the same means.

The fact that the patient was a boy, that he was so young, and that the headaches seemed to be of traumatic origin, quite misled us for a short time, as to the real nature of the trouble.

I will not detain the society with any remarks on hysterical affections in young children. They do, of course, occur in children of either sex, much younger than this one, but are, I believe, comparatively rare in our country. In France, nursery hysteria is by no means uncommon.

THE TREATMENT OF CYSTS AND ABSCESSES BY PAPOID AND PEROXIDE OF HYDROGEN.

By O. A. HYDE, M. D.,
NEW YORK CITY.

The first case was one of sebaceous cyst at the calf of the leg, the cyst having existed for at least ten years, and until recently, given but little trouble. When I opened the sac, it was inflamed, partly broken down and about to open at the site of my incision. Its cavity contained about 16 to 20 grams of decomposed sebum and pus. I made but a small incision that the fluids might be better retained. The solution employed was as follows, viz:

℞ Papoid..... 15 to 20 grams.
Sodii Bicarb..... 5 to 10 grams.
Aquæ..... 100 c. c.

This injection was allowed to remain from one to eight hours, then pressed out of sac, and a strong solution of peroxide of hydrogen introduced to thoroughly clean the cavity. This was repeated once or twice daily. The patient was irregular in treatment of cyst, otherwise the result would have been obtained earlier. A few weeks of this treatment entirely removed the cyst wall, and satisfactorily cured the case.

The second case was one of perineal abscess, that owing to the carelessness of the patient had existed for several months, during which period it had been thoroughly injected daily with peroxide of hydrogen solution. The patient was unwilling to remain away from his business, and thus have the necessary rest for cure, and also was troubled with uric acid deposits and calculi in bladder. The abscess improved under above treatment, but would break down occasionally and discharge pus. Several times the urethral floor was perforated by the pus, and urine passed freely through the sinus. I injected a 15 per cent. solution of papoid, of the formula above given, allowing it to remain in the cavity about 10 to 15 minutes. The patient described the sensation at the time, as though many mosquitoes were stinging the sac walls. I cleansed the cavity with peroxide hydrogen solution as before. In a day or so, the abscess closed and remained so for ten days; it then had a slight discharge of pus, but an injection of peroxide hydrogen was followed by permanent closure of the sinus. This treatment was given three or four months ago.

The prompt arrest of this abscess from a single injection of an alkaline 15 per cent. solution of papoid, greatly surprised me. The cure cannot be attributed to peroxide or hydrogen, as this had been used for months with favorable, but not curative results; employed, after the papoid, it simply, or mainly oxidised the debris or digested pyogenic membrane, facilitating its removal.

Had I employed the papoid and been aided by rest to my patient, I am confident that I could have cured the case, probably several months earlier.

127 *E. Ninety-third St.*

THE TREATMENT OF PERITYPHLITIS.

Dr. Vollert describes (*Deutsch. Med. Wochenschr.*, No. 33, 1891) the treatment pursued in this affection at the clinic of Nothnagle. In recent cases, leeches (about ten) are placed over the seat of inflammation. The leeches are supplemented by the ice-bladder and cold cloths. If the cold is inconvenient to the patient, then poultices are employed. If the resorption by the exudation is delayed, inunctions of green soap or iodoformized collodion, with tincture of iodine, equal parts, is applied to the part. The diet is, of course, regulated. Pain is controlled by morphine. After subsidence of the inflammation, during the period of convalescence, rectal injections are given, in case no spontaneous alvine evacuation occurs. The enemata may be aided by Carlsbad salts. In inveterate cases of peri- and paratyphlitis, where the exudation is not resorbed, massage and warm poultices are especially serviceable. An operation in perityphlitis is only indicated when an abscess is positively shown to exist. The cases most favorable for an operation are those where the exudation is circumscribed and encapsuled. It has been frequently observed, under proper treatment, that even large accumulations of pus have been resorbed. When peritonitis occurs as a complication, the prognosis is always more grave. When the vermiform process is perforated, it is best resected, unless it is attached to the neighboring intestines.—*Wiener Med. Presse.*

THE ARTIFICIAL FEEDING OF INFANTS.*

By CHARLES S. SHAW, M. D.,
PITTSBURG, PA.

The proportion of artificially fed infants to those suckled by the mother, or wet nurse, in large cities, is variously estimated to be from ten to twenty per cent. As these estimates are based solely upon individual observation they necessarily differ widely because of the various conditions of environment that determine the method of feeding. Broadly, it may be said, that in the higher social scale the infant is more likely to be deprived of its natural nourishment. My own experience would place the proportion of artificially fed infants at not less than ten per cent. This refers only to infants who are fed exclusively in this manner; the proportion would be much larger if it included those in whom, because of a deficiency in the quality or quantity of the mother's milk, some artificial adjuvant is necessary. The proper feeding of infants artificially is a subject that may well engage the attention of medical men, for it may be safely asserted that the number of children properly so fed is, unhappily, very small. It is needless to refer to the disasters that attend the bottle-fed baby; they are too familiar to demand anything more than a passing notice. The statement of Holt may be quoted, however, as a general index of infant mortality under these conditions. Of 1,943 cases of fatal diarrhœal disease, 97 per cent. were artificially fed.

With the maternal method of feeding constantly before us as a model, it would seem that a sufficient substitute ought not to be difficult to obtain, but in spite of the apparent simplicity of the problem it has not yet been entirely solved, and until very recently hardly any progress whatever has been made towards its solution. There is, however, a vast improvement in the artificial feeding of infants in the last two years; and the improvement is due, like most recent advances in medicine, to a recognition of the all-pervading influence of bacterial life. The investigations of the bacteriologist, which have so enlarged the power and scope of surgery, which promise so much in the treatment of disease, have also had a most salutary effect upon the subject under consideration.

In dealing with this question of artificial feeding, it is evident that we should endeavor to approximate the maternal and natural method as closely as possible, in the composition of the food, and the quantity, the frequency of feeding and the method of administration.

Practically, we have but one substitute for the mother's milk, that is the milk of the cow. Goat's milk, asses' milk and mare's milk have been suggested and recommended, but it is evident that their usefulness is very restricted. The legion of prepared foods in the market may be dismissed without notice. They are all defective in composition and at most can be used only as adjuvants to a diet whose basis must be milk. The milk at the command of the consumer in a large city is that which we must use. Of course it goes without saying, that the fresher and purer the milk the better, but with the modern method of treatment, the milk in the hands of the dealer is sufficient, so the care and the expense often futile too, with which the anxious parent sought out peculiar excellencies in the milk for the child are now largely removed. The endeavor is to make a food of this milk that will resemble the mother's milk as closely as possible.

The average of the analyses of human milk, taken from Rotch's article in the Cyclopædia of Diseases of Children is: water, 87-88 parts; solids, 12-13 parts. These solids are: fat, 4 parts; albuminoids, 1 part; milk sugar, 7 parts; ash, .2 parts. Cow's milk shows by the same authority, practically the same proportion of water and solids, the solids are: fat, 4 parts; albuminoids, 4 parts; milk sugar, 4 parts; ash, .7 parts. Here we see the same amount of fat in each, but the cow's milk contains four times as much albuminoids, a little more than one-half as much milk sugar and more than three times as much ash. Evidently if we dilute the cow's milk with water till the albuminoids are the same in each, we will have only one-fourth as much fat, a little more than half as much sugar, while the ash will be nearly the same. Then by the addition of fat and milk sugar in the proper quantity to the diluted cow's milk, we make a mixture very closely resembling the mother's

* Read before the Allegheny County Medical Society, May 10, 1892.

milk. But the cow's milk, as we find it in the market is acid, while woman's milk is invariably alkaline. To remedy this we add lime water to the mixture, and the result is a compound that seems to be almost identical, chemically, with human milk. For the preparation of 8 oz. of the mixture, as given by Rotch, take water, 3 oz.; cream, 2 oz.; milk, 1 oz.; lime water, one-fourth strength, 2 oz.; milk sugar, 3⅜ drams. One of the essential differences between cow's milk and woman's milk, that is removed by this dilution, is the character of the curd. Undiluted cow's milk coagulates in hard and large curds, while the curd in woman's milk is very light and fine. The dilution of cow's milk, with four parts of water, reduces the curd to about the same as that of woman's milk. The mixture resembles closely the old Meigs' mixture that was so popular in Philadelphia a generation ago. In composition, appearance, taste and reaction, it is almost a perfect imitation of human milk, but there is still a most important difference—the mother's milk is sterile; the mixture is not. It is the sterilization of the artificial food that is the great advance in modern infant feeding. The experience of the nursery long ago taught that boiling the milk made it "keep better," and rendered it more acceptable to the infant's stomach. Reason would suggest that raw milk is the most natural, and therefore the better food for the child; and Raudnitz has demonstrated that boiling the milk lessens its nutritive value, but in spite of these objections the boiled milk was preferred. The reason for this preference is that boiled milk is sterilized, and sterilization is of more importance than comparative nutritive value or digestibility. The reason for the well-merited popularity of condensed milk may be found in the same fact. Condensed milk, though a very imperfect food, chemically, is more or less sterile, and this compensates for all its short-comings. Now, if we sterilize the mixture above described, we have counterfeited the mother's milk in every essential particular, and have, if not the ideal food, at least a very satisfactory one, and the best at present attainable, This is done by heat. The most convenient way is by subjecting the mixture to a steam bath for 20 or 30 minutes, though any other method of thorough heating will answer. The only requisite is that the mixture shall be heated to a temperature of at least 212°, and kept at that heat for 20 minutes or more. The vessel containing the mixture may be placed in a water bath and heated, or a steam sterilizer may be improvised with the kitchen utensils known as a collander and a pot for boiling water. It is, however, better both for efficiency and convenience to use some apparatus designed for the purpose. Various forms of sterilizers are on the market, and they may be equally good, but my experience has been limited to that known as the Arnold Steam Sterilizer, with which you may be familiar. It consists of an evaporating pan surmounted by a steam chamber, which holds a rack containing a number of 7-oz. graduated bottles. It is made of tin and is inexpensive. In using this apparatus the child's food for the day is prepared when the milk arrives in the morning. When making the mixture the lime water should not be added until after heating. Otherwise the food will have a straw yellow color, and the taste will not be as pleasant, though the nutritive value and wholesomeness are not impaired. Sufficient of the mixture, without the lime-water, for each nursing is put into each bottle, and the whole sterilized by 30 minutes' steaming. The proper quantity of lime-water is then added to each bottle, the neck of each is stopped by a plug of clean cotton, and as required they are used. In this apparatus the sterilizing bottles are used as nursing bottles, and very excellent ones they make. The plug of cotton is removed, the rubber nipple adjusted, and the mixture heated to about 100° in warm water. Any food remaining in the bottle after the infant has satisfied its appetite, is thrown out. This use of the bottle is not only a great convenience, but it also removes all necessity for disturbing or handling the mixture after sterilizing, and renders subsequent contamination of the food improbable.

The quantity of this sterilized mixture to be given to the child at each feeding depends, of course, on the size and vigor of the infant, and its digestive capacity. Biedert's law is two-and-a-half ounces of the food to every pound weight of the child in 24 hours. During the first three months the babe may be fed every two hours during the night. This would make ten feedings in the twenty-four hours, and, allowing one-and-a-half or two ounces at each

feeding, would amount to a pint or a little more of the mixture. There is always more likelihood of over-feeding than of under feeding. As the child grows the quantity of the food should be increased and the intervals between the feeding lengthened. At six months the child may be taking four or four-and-a-half ounces of food at each feeding, and a total of two-and-a-half pints in the 24 hours.

If the sterilized bottle is not used in feeding the child, the best substitute is the ordinary nursing bottle, or a common prescription vial of four or six-ounce capacity. This bottle is surmounted by the common rubber nipple or teat. As found in the shops the perforations in this rubber nipple are frequently too minute, and should be enlarged. In the selection of the nipple cares hould be taken that it is neither too hard and unyielding, a common fault with those made of white rubber, nor so soft and flaccid that it will collapse, as some of the black rubber and red rubber ones do. The worst apparatus is probably that arrangement with the long rubber tube, so popular with lazy and ignorant nurses, and to be had at all drug stores. It is a device worthy of the invention of a Herod, and its sale should be prohibited.

NERVOUS AND MENTAL DISTURBANCES FOLLOWING THE EXTIRPATION OF BOTH TESTICLES.

M. Weiss (*Wein. Med. Press.*, 1890) reports the case of a man fifty-four years of age, in whom a series of grave nervous symptoms occurred, shortly after the removal of both testicles for tubercular disease. This condition manifested itself by great mental and physical restlessness, agitation, palpitation of the heart, gastric crises, profuse perspiration, melancholia, syncope, etc. The author noted the similarity of these symptoms to those observed in women at the menopause, or after the removal of the ovaries.

He ascribes these disturbances to the absence of the normal secretions from these glands, which from the experiments of Brown-Sequard seem to have a marked tonic effect upon the nerves. The removal of this stimulant, he believes, results in a general nervous depression, as in cases where other habitual stimulants are suddenly suspended.

Society Reports.

ALLEGHENY COUNTY MEDICAL SOCIETY.

Scientific Meeting, May 10th, 1892.

J. C. Lange, M. D., President, in the Chair.

CLINICAL NOTES ON A CASE OF HYSTERIA IN A BOY EIGHT YEARS OF AGE. By Dr. Samuel Ayres. (See page 18.)

Dr. Charles S. Shaw read a paper on Artificial Feeding of Infants. (See page 21)

DISCUSSION.

Dr. Green: I am satisfied that every physician who has been so unfortunate as to engage in the treatment of children brought up on these diets, has a task before him. I have in numerous cases resorted to almost any or every method that I could find, preparing different foods in different manners, and am sorry to announce in many instances utterly failed in the end, but I have been successful very often in the feeding of a child on artificial diet, and I feel free to state while I am not wedded to any particular food or any particular manner of preparing food, I believe the condensed milk is very good and possibly proves successful in a larger number of cases than any other single milk diet that is artificially applied or given. I agree with Dr. Davis; I think it is well to examine the cow as well as the baby and food. I think, without looking to all these factors in the case, we many times fail, and if we fail to find a sufficient quality of food, and if we fail to find proper digestion of the food given to the child, by examining the different points or factors in the case, we often can arrive at the preparation of a particular food for a particular case. I think Dr. Kœnig's remarks were well placed. I feel that many times it is not the food; it is the stomach.

Dr. Lange. There seems to be a little diversity in the argument. The title of Dr. Shaw's paper was infant feeding, and although that is very hard to consider without considering some of the diseases, still it seems the discussion of diseases of infancy has got the upper hand. No one will claim that any food will prevent cholera infantum, "summer complaint;" that

if we had an ideal food that summer complaint would be banished from the land. It would probably be banished no more than other diseases will be, even under the best sanitary arrangements. It seems to me every doctor ought to have a standard as to infant's food. Now it has been said that it has often happened that infants would be fed from one cow and then another cow and a third cow, nursed by one wet nurse, and two, and three and to the number of five, but it must be remembered the period at which the fifth nurse nursed the child is not the same as the first, second or third did. The conditions of the stomach play the most important part and not the nurse. It has happened to me in my time, to have three infants who, we became convinced, could take absolutely nothing into the stomach: they probably could not have taken the ideal food if we had had it. These three infants were deprived of all food and were only anointed, one for a period of three weeks, with almond oil, oil of sweet almond, and the infants received nothing into the stomach but a little water and recovered and grew strong under that treatment, afterwards taking the milk well, which formerly disagreed. Now, the point I desire to make is, food, even if it is the best, is not always acceptable to infants. Then, as I understand it, shipping the milk, shaking the milk, driving the milk in the sun and canning the milk, can do it no harm if it is sterilized. It is not the heat that spoils it, but the bacteria that are in it. So, if it it were sterilized, it might be shipped around the world and come back as good as it was. That is a strong argument for sterilization, but we should have a standard of the best infant's food, irrespective of differences that may exist between mothers and cows. The same differences generally exist in every piece of meat that we all eat. Further, it has been said that it would be beneficial to add a digestive ferment, as for instance, pepsin. Now, pepsin is getting to be old, and I think the majority of you will agree with me if you studied it as close as I have, that it is a substance which is entirely useless. I do not believe a physician ever got any result from it, unless he had used along with it the important factor, hydrochloric acid, and I can promise every gentleman, in cases of gastric disturbances, if he will use pepsin without hydrochloric acid, and then use the acid without pepsin, the last will bear much better fruit than the first.

DR. SHAW: Mr. Chairman, my conception of this subject was an average one, not the proper artificial food for any particular infant, that demands any particular care, not a food for an infant of abnormally weak digestive ability, but for the average healthy infant, an average food, as has been suggested, a sort of standard. Now the statement has been made that there is a great change in the mother's milk at different periods from the time of the birth of the child, consequently a standard artifical food that does not also vary, falls short of perfection. It does probably fall short of perfection, but the fact is, there is no practical difference in the composition of the mother's milk from the time of the beginning of lactation until the end of it. There are constant trivial differences brought about by indigestion in the mother—fatigue, unusual emotions, etc. Any of these things will involve the character of the milk to a certain degree, but they will not often involve it sufficiently to make any difference to the child; and the woman who has weaned a child may take the position of wet nurse, and the chances are will nourish it better than any artificial food. The changes that take place in the cow's milk have been said to be more important chemically than bacteriologically. There can be no such distinctions made, for bacterial growths always produce chemical changes.

The fact that condensed milk has been in the hands of some gentlemen particularly good, is only an endorsement of sterilization. It is evident to my mind that sterilization is not properly understood by some gentlemen, and when "sterilized milk" acted as a poison it had not been properly sterilized. Sterilization means more than boiling the milk. It means making it sterile and keeping it sterile. The milk as it comes from the cow is sterile. It is absolutely impossible to keep it sterile for any length of time in the marketable article of milk. It becomes necessary to sterilize it, and that can only be done just before the feeding of the child.

It is a fact that some children will thrive on almost any food; a fortunate fact. I know of children that from a very early

age, two or three months, have been fed almost exclusively on boiled barley. It has been often said that infants would not digest starch, but sometimes they will, though it is evident that starch is not as good a food for children as milk. The probable reason for the digestion of starch in the absence of a proper amyloid digestive apparatus is the mucus of the stomach and the intestines. The suggestion of one gentleman as to the time of putting the lime water in the milk, I do not think it calls for any particular discussion. It is to my mind only a matter of convenience. It is only important that it be put in. Infant's food's on the market, in my experience, have not been satisfactory. Those of them that are used with most satisfaction are used with milk, and the milk that is added to them, and the boiling that is usually directed to be done when making the mixture, makes a good food, because it is sterilized milk. Some of them have elements of nutrition that are suitable to the digestive capacities of an infant, but many have not. I have had a very annoying but instructive experience recently in the Rosalia Foundling Asylum. We have had constantly in charge from fifty to sixty infants under ten months old. About one-half of these children were fed on bottled food. The opportunity was excellent for the trying of a great many artificial foods, and we tried carefully, and with the help of skilled nurses and asistants, almost all the foods in the market, and none of them were satisfactory. The sterilized milk as prepared by Dr. Rotch's formula certainly suited these children best. I am satisfied that where it fails in a healthy infant the cause will be that it is not properly prepared and sterilized.

THE SCARLATINAL BUBO.

Drs. Combemale and Lamy have found in a case of cervical adenitis, of scarlatinal origin, going on to suppuration, that the pus, while entering such micro-organisms as streptococci and staphylococci, is not virulent. The microbes appear dead, or are at least deprived of the power of reproduction on nutrient media. Their observations lead them to believe that these microbian agents act more through their toxines, which call forth an abundance of leucocytes.—*Bulletin Méd. du Nord*, January 8, 1892.

Selected Formulæ.

ACUTE CORYZA.

Dr. Hayem, in the *Union Médical*, recommends the following inhalation in recent cases of acute coryza:

℞ Acid, carbol. pur..... 5.0 grammes.
Ammon. liquid. ..... 5.0 "
Aquæ.....15 0 "
Alcohol.....15.0 "
M.

A few drops of the solution should be poured on blotting paper and inhaled. It will be found to act pleasantly and give relief in the majority of cases, while in some it acts as an abortive. The following snuff is also recommended:

℞ Bismuth subnitri.....6.00 grammes.
Benzoin pulv.....6.00 "
Acid boric, pul .....4.00 "
Menthol.....0.2 "
M.

Vaseline and subnitrate of bismuth in equal parts will be also found a valuable application.

AN ANTISEPTIC SOLUTION FOR VAGINAL INJECTIONS.

L'Union Médicale states in its issue for February 29, 1892, that the following is used by Sunar for the purpose of rendering the vagina antiseptic:

℞ Beta-naphthol, ... 3. iv.
Alcohol, ... 3 xxx. M
Sig.—Make into solution and add a teaspoonful to a quart of water which has previously been boiled and filtered.

This mixture is then given as a vaginal injection, cold or hot, as the case may require it.

TURPENTINE IN ICTERUS.

Dr. Carceau (*La Semaine Médicale*, No. 12, 1891; *Lo Sperimentale*, No. 23, 1891) has recently used the essential oil of turpentine in all forms of icterus with hemorrhages and albuminuria, as Weil's disease, bilious fever, hæmoglobinuric fever, as well as yellow fever. He administers it as follows:

℞ Ozonized oil of turpentine, gms. 10.
Liquid vaseline.....gms. 36.
Inject subcutaneously.

The same quantity may be given in capsules, of which some sixty may be taken within thirty-six hours, thus taking two or three every half hour. By this means he has been able to cure the most severe cases of icterus accompanied by great albuminuria and convulsions.

BRONCHITIS IN CHILDREN.

Dr. Hare gives the acute stages of bronchitis in children:

℞ Tr. aconiti.....gtt. xij.
Syr. ipecac. ..... f. ℥ssj.
Liq. potassii citratii.....q. s. ad. f. ℥iij.
M. Sig.—One teaspoonful every three hours.

For the latter stages:

℞ Ammonii chloridi.....℥j.
Ext. glycyrrhizæ fl.....f. ℥iv.
Aquæ dest.....q. s. ad. f. ℥iij.
M.—Sig.—One teaspoonful three times a day.

HEART PAINS.

The formula which Dr. Liegeois especially recommends is as follows:

℞ Tinct. piscidæ erythrinæ.....gm. 60.
Tinct. verat. virid.,
Ext. aconiti rad. alc.....ää. gm. 15.
S.: 30 drops morning and night.

INJECTION FOR GLEET.

℞ Hydrarg. bichlorid..... gr. ¼.
Zinci sulph. carbolat..... ʒ ss.
Acid boric ..... ʒ jss.
Liq. hydrogen peroxid.... .....f℥ iv.
Aquæ destillat..... .....f℥ vj.
M Use injection in the morning and evening.

Dr. A. Hewson, *College and Clinical Record.*

BALANITES AND BALANO POSTHITIS.

During the stage of inflammation:

℞ Sodii boracis.....ʒv
Aquæ Bullientis.....ʒviij
M. ft. Lotio
Sig. Retract the prepuce and cleanse thoroughly with the lotion. While still wet apply.

℞ Bismuthii subnitratis

Sig. Dust plentifully over and around the glans and then pull the prepuce forward to its natural position and allow it to remain thus covered for twelve or twenty-four hours, when the treatment can be renewed if necessary, daily.

To prevent relapses wash the part two or three times a week with the borax lotion.

Julias A. Faison, M. D.
Mount Olive, N. C.

TREATMENT OF DIPHTHERIA IN PARIS.

The following treatment of diphtheria in children is much advocated at present. The room is steamed with a solution as follows:

Phenic acid ..... ʒ ij.
Solicylic acid ..... ʒ iv.
Benzoic acid..... ʒ jss.
Alcohol..... ʒ iv.

A tablespoonful is put into a quart of boiling water and renewed every three hours.

As a local application:

Camphor..... ʒ v.
Castor-oil..... ʒ iv.
Alcohol..... ʒ iij.
Phenic acid ..... ʒ j.
Tartaric acid..... .... ʒ j.

—*Medical Press.*

ARABIAN BALSAM.

A good formula for Arabian Balsam is as follows:

℞ Take of
Oleum gossypium..... 15 ounces.
Oleum origani..... 1 ounce.
Oleum terebinth..... 4 drams.
Mix.

S. W. Rogers.

Harwick, Mass.

OUABAINE.

J. Sailer (*Therap. Gaz.*, November and December, 1891), who has investigated the physiological action of ouabaine, has arrived at the following results:—1. General action: On dogs and animals capable of vomiting it acts as a powerful emetic; it excites defæcation, perhaps by paralysis of the sphincters; it is probably a diuretic, at least it always causes urination in animals to which it is administered; it does not affect body temperature. 2. On the circulation, ouabaine produces first a slowing of the heart from stimulation of the cardio-inhibitory mechanism, perhaps also from direct action on the heart muscle. At the same time there is a vasomotor spasm sufficient in most cases to overbalance the slowed heart rate, and to produce rise of blood pressure. Next, there occurs sudden and great increase in pulse rate from paralysis of the vagi, and still further rise in blood pressure, with continued vascular spasm. Lastly, the heart itself is paralyzed, and death ensues. 3. On respiration, the drug probably acts by stimulating the respiratory centre, but only to a slight extent; respiration generally continues for some time after the heart has ceased beating. 4. On the nervous system (*a*) the drug diminishes and finally abolishes reflex action by paralysis of peripheral sensory nerves and nerve trunks; (*b*) motor nerves seem to be only exceptionally paralyzed, unless the drug be applied direct to them; (*c*) on the central nervous system the drug appears to exert no action. 5. Muscles are paralyzed by a direct action of the drug on their tissue. 6. On the dog the drug acts as a very powerful local anæsthetic when applied to the cornea in weak solution, and this without causing any inflammation, in man, however, it has been stated to produce much irritation when thus applied.

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Leading Articles.

THE ANATOMY OF THE TONSILS, WITH REFERENCE TO THEIR SURGICAL TREATMENT.

Although we have but little knowledge of the physiology of the tonsils, we have practically to consider them as causes of many disturbances of function, as well as being the seat of acute and chronic inflammation. Their influence in the pathology of the naso-pharynx is especially great, and able observers have shown that many obscure troubles affecting these parts can often be traced to an abnormal condition of these organs. Consequently, it is important that we should have correct ideas of their anatomy, in order that we can intelligently treat them when they are the seat of disease.

The profession is indebted to Dr. Harrison Allen for a recent and very valuable paper upon this subject, which is entitled, "The Tonsils in Health and Disease," in which that able authority on diseases of the throat gives a more satisfactory account of the gross anatomy of the tonsil than is found in any of the standard textbooks. The intent of his paper is best described in his own words (*Amer. Jour. Med. Sciences*, p 92, 1892.): "The object of this paper is to harmonize the descriptions of the normal tonsil with the accounts of its morbid conditions. It is an axiom in medicine that the best basis on which the clinical study of any organ can rest is on exact knowledge of its structure. I will endeavor to show that our conceptions of the tonsil are not in conformity with this axiom. Some of the descriptions of the tonsil have been drawn up from hypertrophied glands, some from atrophied glands, while the terms used by anatomical and clinical writers are often at variance with one another. I cannot recall any other structure in the body of which this can be said. This confusion does not arise from lack of

knowledge, for numbers of valuable papers have been written on the tonsil and its plan is understood. But the description of the mass is conventional and clinicians have not seen fit to depart from antiquated and often quite inaccurate methods of expression."

In the above quoted paragraph the author clearly indicates what is actually the case, when the various standard authorities upon anatomy are referred to, viz., that their descriptions of the structure of this clinically important organ vary very much from each other, and that, as a consequence, we do not possess clear ideas regarding the normal structure.

The fact is, according to Dr. Allen, there is considerable normal variation in the form of the tonsil, while its general morphological plan remains more or less constant, except in those cases in which it is completely masked by disease. The form of tonsils most frequently seen by him he describes as follows: "The variation which I have most frequently seen is a rounded or elliptical mass—of which the vertical is the largest diameter—placed in the tonsil space a little above the level of the tongue. The organ is slightly compressed from before backward, and consists for the most part of a pocket or crypt —whose walls are greatly thickened— directed downward. The anterior wall of the pocket is covered with mucous membrane which is every way similar to that lining the pharynx, along the side of which it sometimes extends as far as the tip of the epiglottis. Above the mouth of the pocket lies a mass which constitutes the 'tonsil' of common language. This alone is cryptose." From this it will be seen that the almond-shaped body, commonly described as the tonsil, is really but a portion of the tonsil. In addition to the foregoing, Dr. Allen describes a "second smaller, somewhat nodular body which is quite distinct from the foregoing," situated higher up and slightly back of the palato-pharyngeal fold, which he terms the "velar tonsil." The middle portion of the tonsil, situated above the main pocket as described above is very commonly, according to Allen, channelled by "numerous communicating passages," especially seen in the tonsils of children and which often run deeply into the gland. Haller, Luschka and Asverus also describe these slits and fissures, which in the adult are obliterated by hypertrophy of the connective tissue elements of the gland, with atrophy of the lymphatic follicles, so that the organ is reduced to hard nodular masses, which bear no resemblance to the original structure of the gland.

We need not dwell further upon the anatomical peculiarities which are so ably presented by Dr. Allen, and will refer the reader to the original paper.

Not only must we have a clear understanding of the anatomy of the tonsil to successfully treat the organ when it is in a diseased condition, but also the changes which age effects in its appearance. The tonsils are largest in childhood and atrophy after the age of 25 years. Their development, Dr. Allen thinks, has some relation to the "rate of dental development, and the small size of the jaw." Regarding the enlarged tonsils of children, the same authority lays down the following clinical rule for determining whether the enlargement is physiological or pathological: "No matter how large the tonsil may become, it need not constitute a clinical state unless respiration is impeded. If the child has nasal respiration, a natural form of chest, and roof of the mouth and the teeth regular, the tonsils are in a physiological condition; but if there is snoring respiration, irregular teeth, the habit of mouth breathing established, a high, narrow palatal arch being present, and the child be pigeon-breasted, then the enlarged tonsil may be said to constitute a clinical condition."

When it is necessary to excise the tonsil

there is considerable difference in opinion and of practice about the procedure; some advocate the removal of but a superficial layer of the organ, while others claim that the best results follow when the whole tonsil is removed. The weight of evidence is decidedly in favor of partial exsection, because it is a more simple procedure, the parts heal more rapidly, and it is not likely to be followed by such serious hæmorrhage as sometimes attends the extirpation of the whole organ.

The dangers of excision of the tonsil for acute abscess should not be forgotten, and in view of the frequent occurrence of fatal or alarming hæmorrhage in such cases, it should be carefully performed. Allen advises that the tip of the left fore-finger be inserted behind the tonsil, between it and the pharyngeal wall, and that the point of the knife be directed towards it. Good light and a firm position of the head are requisites.

EFFECT OF MERCURY ON THE BLOOD OF SYPHILITICS.

Bieganski (*Archiv für Dermatologie und Syphilis*, 24, Jahrgang, 1892), from a research upon the alteration of the blood incident to syphilitic infection, concludes that the syphilitic poison has no effect in altering the number of blood-corpuscles; that it increases the number of white blood-corpuscles, particularly the small mononuclear lymphocytes. At the same time the number of the polynuclear white blood-corpuscles diminishes. The hæmoglobin of the blood is distinctly lessened. On the administration of mercury, the blood count is subject to marked changes. These, however, are dependent upon the greater or lesser thickness of the blood, and are not due to any change or alternation in the nourishment of the patient. Murcury lessens the number of white-corpuscles, and renders the relation between the white and red almost normal. It is particularly the mononuclear white corpuscles which are diminished in number, the polynuclear cells again becoming more numerous. The quantity of hæmoglobin is distinctly increased by the administration of mercury.

Book Reviews.

A TEXT-BOOK OF THE PRACTISE OF MEDICINE FOR THE USE OF STUDENTS AND PRACTITIONERS. By R. C. M. Page, M. D. Author of "A Chart of Physical Signs of Diseases of the Chest," "A Handbook of Physical Diagnosis of Diseases of the Organs of Respiration and Heart;" Professor of General Medicine and Diseases of the Chest in the New York Polyclinic, etc. 8vo, 578 pp. New York: William Wood & Co. Price, $4.00.

A careful perusal of this admirably concise treatise convinces us that it will be found a useful book for those for whom it was written. In these days of rapid progress in medicine, with the wonderful advances which have been made in the methods of clinical instruction, it is most desirable that the students who go to the great medical centres especially for bedside instruction should possess some reliable medium of information to which they can refer quickly for any needed points—this is the motive which prompted the author to compile the present volume; and it may truthfully be added, is clearly shown in the pages of the book itself. Brevity, conciseness, and clearness of expression characterize it throughout, while the style and arrangement have not been sacrificed in order to attain these results.

The initial chapter upon the normal conditions of the chest, followed by a digest of the diseases of the heart and blood-vessels, is a model of lucidness, and presents the essential facts involved in a consideration of them, and very little more. In the ætiology and pathology of aneurisms we notice the failure to mention the mycotic variety which Eppinger has so well described, and seen by Osler. Another important omission occurs in the space devoted to chorea, in which only the ordinary chorea of childhood is described without mention being made of the adult, hereditary and senile varieties of the disease. In a work of this kind, however, it is chiefly important that the main facts concerning disease should be untrammelled by too frequent reference to unusual or rare conditions, and probably many omissions which occur throughout the book have been intentional, and, in justice, it must be said that but few of them are important.

The chapter on dysentery would have been more satisfactory if the amœbic

variety had received attention, and the connection between this form and liver abscess noted. This condition has of late years received considerable study in certain quarters and is certainly deserving of mention in any work on the practise of medicine.

The author differs from many in advising the use of quinine vigorously for "the first week or two" of typho-malarial fever, for according to the investigations of our Southern physicians living along the Mississippi River we know that a few maximum doses given at the very beginning of the disease are just as efficacious, and that the further use of this drug is sometimes positively harmful.

One of the best portions of the volume is that devoted to the treatment of disease. In that connection with each affection the treatment is carefully reviewed, and many prescriptions of well-known value have been added with the idea that they will be of service to the young physician.

In general terms we think that the author has been successful in condensing in one small and elegantly bound volume the best part of our knowledge of practical medicine, and that his object "to facilitate clinical instruction and enable both physician and student to obtain, in brief, the most practical as well as scientific view of various subjects treated of in a work on medicine" has been attained.

CANCER AND ITS TREATMENT. By Daniel Lewis, A. M., M, D., Ph D., Surgeon to the New York Skin and Cancer Hospital, etc., Detroit, Mich.: Geo. S. Davis,

In this new volume of the Physician's Leisure Hour Series the author has added a most instructive little book. Within the limits of 123 pages he has grouped the main facts concerning the ætiology, pathology, symptomatology, prognosis, and treatment of the different forms of cancer. He does not increase the difficulties attending a comprehensive study of this affection by the use of many terms, and broadly includes under the term cancer all malignant neoplasms. The author has also made use of cases seen at the Skin and Cancer Hospital for purposes of illustration, as well as cases from his private practise.

The opening chapter refers to the medicinal agents which have proven of some value. Among these he mentions Chian turpentine, chloride of aniline and pyoktanin. The chapter devoted to the discussion of the development of cancer from non-malignant affections is interesting. In other chapters cancer of special regions is dealt with, and some interesting statistics are given. Special mention should be made of the part devoted to treatment, since it is wholly modern, well written and in accord with the best principles clinical experience has taught us. The brochure is an exceedingly creditable addition to the Leisure Hour Series.

Periscope.

THERAPEUTICS.

DIURETIN IN INFANTILE PRACTICE.

According to the observations of Dr. R. Demme, Professor of Pædiatrics to the Faculty of Medicine of Berns, diuretin may be administered in the daily dose of .50 to 1.50 grammes (7½ to 22 grains) to children of from two to five years old, and in daily doses of 22 to 45 grains in children of six to ten years. In infants less than a year old the drug is contra-indicated, as it easily provokes gastro-intestinal irritation in these young patients.

Care should be taken in prescribing diuretin, as it is liable to be decomposed by certain substances. M. Demme recommends the following:

℞ Diuretin.....gr. xxij
Distilled water.....℥ iij
Brandy.....gtt. x
Sugar.....grs. xl
M. Sig. To be taken in the course of the 24 hours in doses of one tablespoonful.

Dr. Demme's observations have convinced him that diuretin is a good diuretic for children, exempt for the most part of all unpleasant influence, and probably acting on the renal epithelium.

Under the influence of diuretin, the dropsy of scarlatinal nephritis disappeared more quickly than by the action of any other medicament. It suppresses very rapidly the anasarca and serous effusions in cases of mitral disease, when the compensation has been previously established by means of digitalis.

The diuretin was generally well supported and it had no cumulative action. However, in one case of generalized dropsy in a child of ten years, suffering from amyloid degeneration of the liver, spleen and

kidney, Dr. Demme has seen a morbilliform eruption with abundant diarrhœa, after the injection of 90 grains of diuretin in the space of four days.—*La Semaine Médicale*, Feb. 24, 1892.

PENTAL AS AN ANÆSTHETIC.

Brener, in a communication to the Royal Medical Society of Vienna, reports having used pental as an anæsthetic 150 times in his dental practice. Loss of sensation is produced before complete loss of consciousness. Usually the patient recovers quickly and easily. The effect is produced generally in one or two minutes, and requires ten to fifty grammes. According to Rogner in the *Wien. Med. Pr.*, 1891, and Hollander in *Nouv. Rem.*, 1891, the loss of sensation lasts about four minutes, and towards the end of the seventh minute passes away. There is no vomiting or other troublesome symptom during the inhalation, nor does headache or sickness occur afterward. The loss of consciousness comes on during the first few minutes with complete loss of voluntary movement. Rogner considers it the best antiseptic to use in minor surgery. In spite, however, of these favorable reports, Brener himself had a serious accident. A girl who required extraction of a tooth was placed under the effect of pental. She had only taken four grammes when alarming symptoms arose—syncope, apnœa, loss of pulse, and dilatation of the pupil. It was necessary to resort to artificial respiration to restore consciousness. This fact, as Basch and Dittel observe, proves that new anæsthetics, and especially those producing rapid narcosis, require great care in their employment.—*Lancet.*

LA GRIPPE.

Epidemic Influenza, according to Dr. C. F. Taylor, *Medical Standard*, spends its force upon the central nervous system—especially the spinal cord. The local manifestations are due to interference with its functions which produces the frontal headache, nasal pharyngeal, laryngeal and pulmonary congestion, cardiac irritability, myalgia, enteralgia and intestinal catarrh, priapism with erotic excitement and temporary paraplegia. Erotic excitement constitutes a well-marked symptom in the earlier period of the attack in a considerable portion of cases. The remedies in this disease are ammonium salts and camphor. By the intelligent use of these, with other indicated treatment, the cure is generally complete, and complications and sequelæ are not likely to occur. The new antipyretics should generally be avoided, except in very robust subjects and in the first few hours of the malady. The first remedy usually indicated is ammonium bromide, as long as there is much acute pain. The next most important is ammonium salicylate if there be fever alternating with chilly and sweating stages. If there be torpidity of the liver, the chloride should be used. If the kidneys require especial attention, the benzoate. If the patient cannot be seen often, he suggests the following, which he has used with satisfaction:

℞

Acid salicylici	℥ ii
Ammonii carbonatis, q. s. ad neutr.,	
Ammonii bromidi	℥ ii
Glycerini	℥ xii
Ammonii chloridi	℥ ii
Ammonii benzoatis	℥ ii
Lip. ammon. acet.	℥ xvi
Aq. menth. pip. q. s.	℥ xlviii

M. S.—One tablespoonful in hot milk or water every two hours, until relieved, then reduce the dose gradually to a teaspoonful, no dose to be taken in less than two hours after eating. Should be made fresh when needed.

This may be beneficially alternated with a good camphor mixture. The heavily loaded tongue is well met with sodium sulphite. Rest should should be absolute and complete, both physical and mental. The busy man who keeps at his work as long as he can stand, then goes to bed to have his correspondence read to him, and to dictate replies is virtually committing suicide. As between rest and no medicine, and medicine and no rest, the influenza patient had far better take the former.

ACTION OF PARAFFINIC NITRITES ON BLOOD PRESSURE.

Professors Cash and Dunstan have reported to the Royal Society on this subject, their knowledge being derived from experiments on cats and rabbits. It was found that the well-known effect of a fall in blood-pressure produced by amyl nitrite is due to the direct action of the drug on the vascular walls causing the vessels to dilate, and not to its action on the vasomotor centre. The experiments which the professor made were of two kinds. In the first the head was cut off from the circulation, and amyl nitrite still gave rise to as great a fall of pressure as when the head

was included in the circulation. In the second series the drug was injected into the carotid artery, but prevented from reaching the general circulation by appropriate ligatures. The fall of pressure did not occur until these ligatures or clamps were removed. Experiments were also made on man with a view to ascertaining the order of activity for various nitrites when inhaled, and the result was the following order: (1) alpha-amyl; (2) beta-amyl; (3) isobutyl; (4) secondary butyl; (5) primary butyl; (6) secondary butyl; (7) primary propyl; (8) ethyl; and (9) methyl. All the nitrites produce a fall of blood-pressure and an accompanying acceleration of the pulse; the latter is not so marked after intravascular injection as after inhalation, and is also less marked in cats than in men. The respiration is affected temporarily during inhalation in various degrees by the different nitrites, and permanently by repeated administration of the same or different nitrites.

ON THE ACTION AND USE OF TINCTURE OF CALUMBA.

Nearly 130 years ago, Dr. Percival of Manchester ("Essays, Medical and Experimental," Vol. II.), drew attention to the value of calumba root in diarrhœa, and recorded five cases, showing its efficacy. He pointed out that the tincture was the strongest preparation, and by experiments on himself showed that it did not influence the circulation.

Schultz (*Thérap Monat.*, Feb., '92) publishes a series of observations on the use of calumba in health and disease, which do little more than confirm the conclusions arrived at by Percival. He notes one or two points of practical interest. Out of the five healthy people to whom he gave a preparation made by extracting one part of the root with ten of alcohol, he found that in one, daily doses continued for a week, and gradually increased from 25 minims to a drachm, were followed by stomach catarrh and a slightly relaxed condition of the bowels. Eventually there was extreme repugnance to the medicine. In a second case, the action of the bowels became very slightly increased by large doses of the tincture. In none was the circulation affected; the other three were not influenced at all by full daily doses. The cases seem to indicate that in some even tincture of calumba may slightly disturb the bowels if continued long in full doses.

Schultz records 14 cases in which tincture of calumba seems to have a distinct effect in checking diarrhœa and regulating the action of the bowels. Even in the diarrhœa of phthisis he found it successful. He gave it in doses of from 40 minims to 3 drachms usually once, but sometimes twice daily.

TREATMENT OF SORE THROAT.

It is now generally admitted and agreed that in diphtheria some form of antiseptic or at least aseptic treatment should be used, but for the simpler forms of throat inflammation, and the catarrhal as well as tonsillar troubles, which are supposed to be caused by cold, the treatment remains for certain doctors what it was—that is, chlorate of potassium or other gargles of an emollient or astringent nature—and yet the simple fact that these troubles are frequently seen in the same family, and at the same time as diphtheritic diseases, would seem to indicate a common origin. The infectious nature of tonsillitis and other simple forms of throat and bronchial disease or inflammation seems likely, and once this is suspected, if not proved, it should lead to trying antiseptic methods instead of the old astringents. The following is a formula much used in France:

℞ Acid. carbol., cryst.
Camphor, ... āā gr. xv
Glycerini,
Aquæ destill., ... āā f ʒii

This is painted on the inflamed part three times a day. It will be found to have a mechanical action as well as an antiseptic one.—*Archives of Pediatrics*, December, 1891.

TREATMENT OF BUBOES BY INJECTION OF IODOFORMIZED VASELINE.

Dr. Le Jollec (*La Semaine Médicale*, No. 55, 1891), a physician in the French navy, has treated several cases of buboes with success by the injection of a 5 to 10 per cent. solution of iodoformized vaseline into the bubo.

TO REMOVE ANILIN STAINS FROM THE SKIN.

Unna recommends washing first with a five per cent. solution of salt in water, then with the same strength of hydrogen peroxide, and finally with alcohol.

MEDICINE.

THE DIAGNOSIS AND PROGNOSIS OF SYPHILITIC DISEASE OF THE BRAIN.

Dr. Otto Harmsen has been induced by the scarcity of information relating to syphilitic disease of the brain to publish particulars of nine such cases, which had remained under observation for a year or more in the Berlin clinic for nervous diseases. The *Archiv. f. Dermat. u. Syph.*, which publishes the account, points out that the meagre statistics of this affection have often been complained of, more especially by Naunyn. The chief symptoms in most instances were headache, vomiting, vertigo, facial paralysis, aphasia, and hemiplegia. In one case polydipsia and polyuria appeared some years after the primary infection, and serious cerebral symptoms quickly followed. In another case the nervous symptoms appeared as early as two years after the initial sore. Nearly all the cases were cured by energetic anti-syphilitic treatment, this being most marked in a patient never before treated with mercury. It should be mentioned that in many instances a temporary disturbance of the reaction of the pupil was the first and only indication of cerebral mischief, as has been pointed out by Oppenheim.

ESSENTIAL PAROXYSMAL TACHYCARDIA.

Dr. J. W. Brannan, in a paper upon this subject, refers to that form of tachycardia in which a very great exhilaration of the pulse, occurring in paroxysms, was the cardinal symptom. The paroxysm might last a few minutes, or it might extend, without interruption, over a period of several weeks. In the intervals between the attacks the heart-beat should be normal, both in force and in frequency, and the individual seemed to be in perfect health. There was no history of rheumatism, nor were any valvular murmurs detected. In 4 cases in which an autopsy was performed no anomaly was found. Dr. Brannan has collected only 27 cases of this rare disease. The attacks are characterized by extreme rapidity of the heart's action, which may attain 250 or even 300 pulsations a minute. It is very much like that produced by section of the pneumogastrics in animals. The pulse is usually regular, often not perceptible at the wrist, but to be found in the carotids and femorals. The attacks occur suddenly, as a rule, and at other times they follow some strong mental emotion or physical fatigue or effort. The face is usually very pale throughout the paroxysm, the pupils are normal. There may be moderate dyspnœa. Anorexia and constipation are present with almost complete insomnia. The subjective sensations are variable, and include epigastic oppression, pain at the precordia and numbness of the left arm or general chilliness. The attack ends as abruptly as it began; the pulse dropping suddenly from 200 or more to 72 beats per minute: There is extreme cardiac distension as shown by the area of dullness. In discussing the ætiology of the disease, Bouveret has drawn attention to the entire absence of hysteria, or neurosthenia in the cases collected by him, and there was no hereditary neurotic tendency. Of the 25 cases in which the sex was noted, 11 were in males and 14 in females. Over-fatigue, either mental or physical, seems to be the chief cause of the affection.

PRECOCIOUS HEREDITARY CEREBRAL SYPHILIS.

Dr. D'Astros (*Journal de Médicine*, Jan. 2, 1892) in a communication to the Association for the Advancement of the Sciences, spoke on the cerebral localizations in the new-born, to which Fournier has already called attention. These cerebral manifestations present themselves under various aspects: syphilitic meningitis (rare and ill defined); syphilitic arteritis of the arteries of the brain (quite frequent); gummata (rare and often during the second infancy); syphilitic ependymatis or ventricular syphilis, of which latter the author has observed two instances. The onset was quite precocious (one month after birth), and death took place in less than a month. At the autopsy (an acute ventricular hydrocephalus was found with embryonal infiltration in the ependyma and the striated bodies. The functional importance of the corpora striata for the reflex life of the infant is perhaps the cause of this localization. The cerebral gummata and syphilitic cerebral meningitis and arteritis are relatively late lesions, especially the first two; syphilitis ependymatis is the most precocious form and the most characteristic of hered-

itary cerebral syphilis. Its evolution appears to bear a relation to the degree of infectiousness of the syphilis. It is made manifest by a variety of nervous symptoms, convulsions, contractures, tremblings, strabismus, and especially by acute hydrocephalus of rapid development which is characteristic.

DOUBLE CONGENITAL ENTROPION.

Guibert (*Arch d'Ophtal.*, February, 1892) reports the case of a female child, aged 3, with complete entropion of the lower eyelids, the free border with the lashes being entirely hidden; in consequence of the infolding the lids appeared thickened. This condition had been noticed by the mother eight days after birth. The eyes had not suffered from the abnormal position of the cilia, the cornea were clear, and there was no conjunctival irritation. The operative procedure adopted consisted in cauterzing along the skin surface two millimetres from the ciliary margin of the lid, and penetrating all the tissues down to, but exclusive of, the conjunctiva. The result was quite satisfactory and six months later there was no return of the entropion. A point of interest noted by the author is, that when applying the cautery to the lids, no structure was met with representing the tarsal cartilage (so-called). The absence of this constituent of the lid was looked upon by Panas as the probable explanation of congenital entropion, and Guibert thinks it will explain the condition in his patient. There were no other discoverable congenital defects in his case, and no family history of such.—*Brit. Med. Jour.*

THE SPECIFIC GRAVITY OF THE BLOOD.

A fair amount of literature is extant upon the subject of the specific gravity of the blood, and among those who have contributed thereto may be mentioned Schmeltz, Landois, Lloyd Jones, Roy, and lastly, Peiper, the latter having recently recorded some observations to which reference may here be made. The specific gravity of the blood in healthy human beings varies but slightly—1045 to 1046—with an average which is somewhat higher for men (1055) than for women (1053) or children (boys 1052, girls 1050). In disease the variations may be relatively considerable, that is, from 1055 to 1068. In nephritis, chlorosis, and anæmia, also in maladies associated with much wasting, such as phthisis and carcinoma, the specific gravity is lowered, but in febrile diseases, and in conditions causing marked cyanosis, it is raised. The blood of birds is apparently heavier (1059 to 1075) than in man, while that of frogs is lighter (1034 to 1053). It is evident, however, that not much is to be gained by the estimation of the specific gravity of the blood in disease, as far as diagnostic or therapeutic purposes are concerned. According to the author, "the specific gravity varies considerably in different persons, so much so, that a specific gravity which is normal for one may be a sign of disease in another." Under these circumstances it would scarcely be possible in any given case to say whether an apparently abnormal record was pathological, or the usual physical condition of the patient's blood.—*Med. Press.*

RECURRENT ERYSIPELAS.

Critzman (*Arch. gén.de Méd.*, January, 1892) says that erysipelas is distinguished from other cutaneous infections by its property of extending superficially, and hardly ever into the deep and subjacent layers of the integument. It is caused by the streptococcus erysipelatis. This micro-organism is, perhaps, identical with the S. pyogenes, but the suppuration produced by the latter cannot be identified with the serous inflammation produced by the former. It is disputed whether phlegmonous erysipelas (a complex affection) is due to the exalted virulence of the S. erysipelatis, or is an expression of a secondary infection. Erysipelas is very rarely phlegmonous from the outset, and suppuration is really a complication. The type of recurrent erysipelas is seen in the catamenial form. It may occur as often as ten, twenty and more times. Repeated attacks give immunity against symptoms, but not against the disease. Critzman relates a case occurring in a woman, aged 35, suffering from uterine fibroid. She had the first attack of facial erysipelas at 30, since when she said she had an attack nearly every month. The one observed by him began with shivering. A piece of skin was excised by permission of the patient. The cultivation and inoculation experiments were successful in demonstrating the micro-organism. In sections from the skin the

disease was made out to be a dermato-lymph-angitis, and the streptococci occupied the lymph spaces and vessels. In some of the infective diseases, as enteric fever, syphilis, variola, a second attack hardly ever occurs, but in others recurrence does happen, only to name ordinary tonsillitis. Two conditions only are necessary for recurrence: (1) presence of the micro-organism; and (2) a suitable soil for renewed growth. In recurrent erysipelas the streptococcus exists, as is shown above. After an attack it loses its virulence for a time, but under influences not yet understood this virulence may return, and with it the recurrence.—*Brit. Med. Jour.*

NORMAL TEMPERATURE OF THE AGED.

Kelynack (Manchester) publishes in the *Medical Chronicle* (vol. xv., 1892, No. 5) the results of observations on the temperature of healthy old persons (eighty-two, eighty-three, and eighty-nine years of age), which tend to show (1)that the normal senile temperature, as registered both in the rectum and axilla, is very distinctly below that of healthy children and adults. 2. That the rectal or internal temperature in old age is almost always higher than the axillary, but varying from 0.2° to 1° F.

SURGERY.

TREATMENT OF POST-OPERATIVE INTESTINAL OBSTRUCTION.

Lucas-Championnière (*Rev. de Chir.*, March, 1892) reports five cases in which it was found necessary to perform laparotomy for the relief of internal strangulation following operation on the viscera of the abdomen. In the first of these cases the symptoms of obstruction were presented on the eighth day after ovariotomy, and were found to be caused by old adhesions of the intestine to a mass of the omentum. The primary operation in three cases was for the radical cure of hernia, and in the fifth case for strangulated hernia. The post-operative obstruction was due in three instances to adhesions, and in one to the pressure of a large intra-peritoneal effusion of blood. All these patients made good recoveries after the second operation. Mention is made of a case of fatal obstruction after an operation for the radical cure of hernia, in which, after death, a loop of intestine was found to have been strangulated by a peritoneal band. In cases of this kind it is often difficult to determine whether the patient be suffering from actual strangulation or from simple obstruction of the intestine. If it be clear that the bad symptoms following operation are due to mere obstruction, purgatives, the author holds, ought to be administered. It is not a rare occurrence for laparotomy to be followed by intestinal paralysis with fæcal retention, the paralysis giving rise also to symptoms of occlusion with stercoraceous vomiting. With the view of preventing this bad result, the author makes it a general rule to administer a purgative two or three hours after the performance of laparotomy, thus following, and, indeed, carrying out to a further extent the practice advocated by Lawson Tait. Since he has adopted this line of treatment he has not observed the rise of temperature and the symptoms of gastric disturbance which so frequently result when the patient is subjected to the influence of opium.—*Brit. Med. Jour.*

CARCINOMA OF THE CARDIAC END OF THE STOMACH.

King (*Canadian Practitioner*, Feb. 12, 1892) reports a case, which occurred in a woman, 77 years of age, resembles those just above referred to, in its latency. The patient was a woman who had been admitted to a house, not on account of illness, but to provide her with a comfortable home. Her symptoms were few, and of no special moment; her appetite was fair, and she never vomited. Two weeks before death, however, a severe coffee-ground hæmorrhage from the bowel occurred, and two slight attacks followed in the next ten days, and three days prior to death another. This was regarded as proceeding from the bowel, and so treated; but she died on the third day after. The stomach was found to be the seat of carcinoma in the lesser curvature at its cardiac end, where there was a cup-shaped ulcer, the size of a Mexican dollar, with sharp, clear cut edges. There was no involvement of the œsophagus whatever. Large numbers of secondary deposits were found in the liver. Fagge denies the existence of cancer of the cardiac end of the stomach. He thinks that all the cases begin in the œsophagus and spread thence to the stomach; but in this case there can, in King's opinion, be no doubt it was primary. The entire ab-

sence of symptoms, in a case which was evidently of long duration, the situation of the cancer, and the fact that the immediate cause of death was hæmorrhage, all tend to make this case worthy of notice.

ULCER AND CANCER OF THE STOMACH.

Dr. E. Kollmar, of the Medical Klinik of Tübingen, has an instructive paper in the *Berl. Klin. Wochensch.* on the Differential Diagnosis of Ulcer and Cancer of the Stomach. The cases related by Dr. Kollmar show that neither cachexia, nor even a palpable tumor in the epigastrium is sufficient to render the diagnosis certain. Liebermeister placed the greatest reliance on the duration of the disease, and the author is at one with him on that point. If any gastric disturbance persists for years, if there has been vomiting of blood for a great length of time, the case is probably one of ulcer. Cases have been observed in which a cancer has developed in the cicatrix of an old ulcer, but the author considers them so rare that they may be ignored. In one case a tumor was felt, and the history showed illness of thirteen years' duration, and cancer was diagnosed. The abduction, however, revealed an ulcer that had led to attachment to the pancreas, and this formed the tumor in the epigastrium. The second case was that of a woman with a twenty-three years' history of gastric mischief. Here, in spite of cachexia, a palpable tumor, and absence of hydrochloric acid reaction, a diagnosis of ulcer was given, and the patient in fact recovered. In another case in which advanced anæmia with cachexia was present, the long duration of the illness led to a diagnosis of ulcer, which was verified at the post-mortem examination.

OBSTETRICS.

THE TREATMENT OF ASPHYXIA IN THE NEWBORN.

Forest (*Medical Record*, April 9, 1892) describes a method for resuscitating asphyxiated infants as follows: He places the child on its face, its head down, and expels fluids from the mouth by pressure upon the back; the child is then put in a pail or tub of hot water in a sitting posture, supported by one of the operator's hands across its back, its head bent backward. The physician grasps the child's hands with his other hand, carries them upward until the child is suspended by the arms, leans forward himself and blows air into the child's mouth; the infant's arms are then lowered, its body doubled forward, and its thorax pressed between the hands of the physician. Air is thus expelled. Especial advantage is claimed for this method from the fact that the hot water maintains capillary circulation, and tends to assist in promoting the action of heart.—*Amer. Jour. Med. Si.*

CÆSAREAN SECTION IN EXTREMIS AND AFTER DEATH.

Winckel (*Aerztliche Rundschau*, No. 5, 1892) discusses this question, which appears to have been taken into consideration by political and legislative authorities in Bavaria. These authorities have endeavored to ascertain if it be justifiable to enforce upon practitioners the performance of Cæsarean section on women who die during labour. After collecting evidence, Winckel finds that the chances of saving the child are considerable, the gloomy prognosis of Fehling and others being set aside by recent experience. The best results have been seen when the child has been extracted within ten minutes after the death of a previously healthy patient from flooding, or of a woman ill but very shortly before the moment of decease (from convulsions of pulmonary embolism, for example). In these cases the child was delivered at or very near term. Living chiidren have, however, often been delivered by section and reared after the death of the mother from chronic cardiac or pulmonary disease. The longest period after death when Cæsarean section has saved the child is from twenty to thirty minutes (Pingler, Brotherston). Even when thet fœtal heart sounds have become inaudible, rapid section has saved the child. The best success, as might be expected, has been obtained in hospitals, where instruments are always in readiness. Winckel recommends Rung's instructions to be followed when death during labor occurs in private practice. Alter all, Winckel remarks, these cases are still rare, and therefore laws cannot well be framed at present to bind practitioners. All cases should be duly reported, and registration authorities should tabulate them especially and with great care as to notification of the result. When

the patient dies suddenly in the presence of the practitioner or just before his arrival Cæsarean section ought to be done at once with any instrument that is at hand. When the patient is sinking hopelessly from convulsions, apoplexy, etc., preparations should be made as complete as possible for the performance of Cæsarean section as soon as the maternal heart ceases to beat. There remains a grave class of cases where, after due consultation, it may be deemed justifiable to deliver the child by section, the patient being *in extremis*. Winckel refers to cases of severe dyspnœa, anasarca, etc. If the fœtal heart sounds can be heard, it may seem right to deliver the child by Cæsarean section, as the very slow death of the mother is more certainly fatal to the child than her sudden decease. —*Brit. Med. Jour.*

THE BACILLUS OF ECLAMPSIA.

The *Deutsche medicinische Wochenschrift* of May 12th contains the announcement that Dr. Gerdes, first assistant in the Pathological Institude to the University of Halle, has in a severe case of eclampsia succeeded in demonstrating by culture the presence of a short bacillus in the liver, lungs, and kidneys, and also in the blood. The bacillus is extremely virulent when inoculated in rats and mice, causing convulsions in the latter. In all the animals experimented on coma set in, the respiration became shallower, the body temperature became subnormal, and death occurred in a short time. In guinea-pigs convulsions only came on after intravenous injections (the jugular vein was selected for the purpose); subcutaneous and intraperitoneal injections produced no such effect. The bacilli referred to were found in great numbers in the lungs, kidneys, and liver of patients suffering from eclampsia, especially in the form of bacillary emboli, the starting point of which was probably a primary focus in the placenta. Dr. Gerdes promises a preliminary communication on the subject without delay.—*Brit. Med. Jour.*

GYNECOLOGY.

ICHTHYOL IN DISEASES OF WOMEN.

Eschen (*Gynek. op Obstet. Meddelelser*, 1891, vol. viii, p. 192) used this drug in twenty-five cases. Good effects were observed in patients with metritis, parametritis, and inflammation of the ovary, but it is admitted that no extraordinary effects were observed.

REPRODUCTION OF THE UTERINE MUCOUS MEMBRANE.

L. M. Bossi (*Brit. Med. Jour.*, Nov. 7, 1891) gives the results of an experimental study on the reproduction of the uterine mucous membrane after curetting, and after the permanent application of caustics (Canquoin's paste). He first performed laparotomy on bitches and then scraped away the mucosa in the neighborhood of the cervix with a Volkmann's spoon; in other cases the uterus was opened along its anterior surface, and different areas were completely denuded with a bistoury. In the cauterization cases sticks of Canquoin's paste were inserted into the corua and allowed to project a into the uterine cavity. After a varying number of days the animals were killed, the parts hardened in alcohol or in Flemming's solntion, and sections made.

Staining was done by alum and carmine, also by saffronine. Fifty animals were thus experimented on; the results in thirty-five only are relied upon in the following conclusions : 1. The uterine mucous membrane of the dog removed from large tracts and in its whole thickness, is completely reproduced after a time together with true glands.

2. This reproduction may be in some cases a slow process from causes not yet ascertained. 3. The new epithelium is derived from that of the glands at the margin of the wound. 4. Finally, the reproduced glands arise by proliferation of the cells of the new epithelium after it has become cylindrical. As regards caustics, Bossi comes to the conclusion that Tarnier and Polaillon, in their report made to the Paris Academy of Medicine in 1890, are in error in stating that they removed the mucous membrane in its whole thickness by caustics, They judged only from the expelled eschars and not from direct observation of the uterus. In all Bossi's cases there were incomplete stenosis of the cervical canal and complete stenosis of the cornua, and even signs of peritonitis. Microscopical examinations by the author showed the existence of an intense necrotic inflammation caused by the caustic, which not only destroyed the mucous mem-

brane, but profoundly altered its glandular apparatus, so that it became impossible to say whether complete destruction would follow, or whether, a *restitutio ad integrum* being impossible, or difficult, grave chronic alteration would remain as the result. In contrast to this, in ten cases of removal of the mucous membrane, and in twenty other cases in which the uterus was laid open and the knife used, there were never any even incomplete stenosis, and never signs of peritonitis or grave inflammation of the uterine walls.

Accordingly Bossi emphatically asserts the superiority of curetting to the use of caustics left in situ, as regards both immediate and ulterior results.

PEDIATRICS.

CHRONIC PERITONITIS IN CHILDREN.

Henoch (*Deutsche med. Wochenschrift*, No. 1, January, 1892)does not believe, as has been taught by West, that nearly all cases of chronic peritonitis in childhood are of tuberculous nature. He does not see why the peritoneum cannot take on a chonic inflammation and cause a serous exudation into the abdominal cavity, just as the pleura takes on an inflammation. He calls particular attention to those cases which only show the presence of ascites, which may be very large in quantity. These cases progress as follows: The children are usually over 3 years of age; they seem to be quite well, do not complain of pain, nor is the abdomen tender to pressure. The only thing that the parents have noticed is an increase of the abdomen. An examination reveals free ascites (author has never seen it encapsulated in this form of cases). No cause for the ascites can be found in the liver, kidneys, or heart. Rarely is it traumatism. Tuberculosis can be excluded in many cases, from the general condition of the child and its ultimate recovery, although at times it may be very difficult to exclude this as a possible cause. The finding of tubercle bacilli, in the fluid which has been withdrawn is often a very difficult task, so that, although they are not found, we cannot say that the case is not tubercular, nor does the use of tuberculin help us in making a diagnosis. The majority of cases affected with this simple form of peritonitis are girls. In boys it occurs very rarely. This leads to the thought of a connection between the affection and genital organs, and it has been stated that a vulvo-vaginitis, which occurs frequently enough in children, may travel up to the uterus, thence to the tubes, and so on into the peritoneal cavity. These cases must be differentiated from a cirrhosis of the liver producing ascites, which can only be done after the fluid has been withdrawn and the liver then palpated; and from tuberculosis, which, as stated before, may be very difficult. The treatment of these cases is a purely surgical one. Medicines, puncture, etc., do little if any good. The ascites returns almost as fast as the fluid is withdrawn. Laparotomy, on the other hand, produces a rapid and permanent cure in these cases, as it often does in tuberculous peritonitis.

RICKETS IN AUSTRALIA.

Muskett(*Australasian Medical Gazette*, July 15, 1891.)says, rickets has been considered a disease of rarity in Australia; but that he has found it to be comparatively common, though as a rule of mild type. Acccording to his description there is nothing in the symptoms especially peculiar. The chief point of interest is the fact that this disease is frequently found by one who is watching for it, and who appreciates its symptoms in a locality where it was supposed not to exist. When the conditions are favorable the disease is sure to appear.

THE PROPHYLAXIS OF SCARLATINAL NEPHRITIS.

In more than a hundred cases of scarlatina seen in the course of six years, in in which the patients were for three weeks kept upon milk diet, Ziegler has not once encountered nephritis as a complication.—*La Semaine Méd.*, No. 4, 1892.

HYGIENE.

A DEFENCE OF TOBACCO-SMOKING.

It is considered by many that tobacco-smoking, like ladies' corsets, is indefensible on hygienic grounds, and that the only reasons for its practice, independent of a patriotic desire to aid the State in the consumption of a dutiable article, and so to in-

crease its revenue—are in the first instance the faculty of imitation, then habit, and over all caprice. It has fallen to the lot of a well-known hygienist of Rome, Dr. v. Tassinari, however, to demonstrate that tobacco-smoking fulfils a valuable hygienic function, viz., that of a powerful disinfectant, making it a prophylactic against a number of infective diseases. In order to show that he does not stand alone in his views, he quotes Drs. Miller, of New York, and Vassili, of Naples, both of whom are of opinion that tobacco-smoke prevents the development of pathogenic germs. A large number of independent investigations were made by Dr. Tassinari on the influence of the smoke of the noble weed on the germs of cholera, anthrax, and pneumonia.

His method of research was to line the interior of hollow balls with gelatine containing the germs of the diseases named: tobacco-smoke was then passed through these globes for from twenty to thirty minutes. The surprising fact was then established that at the expiration of the time the bacilli of true Asiatic cholera and of pneumonia were completely destroyed, whatever the kind of tobacco employed for the purpose. The gelatine was absolutely sterilized by the tobacco-smoke. The anthrax bacillus was more resistent, however, whilst the bacillus of typhoid was scarcely acted on at all. It is too much to expect that tobacco-smoke will destroy germs already domiciled in the system, but it will no doubt afford not a little comfort to smokers to learn that as far as it goes the practice tends to prophylaxis in the case of some of the most serious of the infective diseases.—*Med. Press.*

PASSAGE OF TUBERCLE BACILLUS FROM THE MOTHER TO THE FŒTUS.

Birch-Hirschfeld and Schmal have recorded a case which they consider is the first in which it has been definitely shown that in the human subject tubercle bacilli can pass from the mother to the fœtus. The patient was a young woman who, shortly after the commencement of her first pregnancy, began to exhibit symptoms of incipient phthisis; the disease assumed an acute form, and progressed so rapidly that the patient died during the seventh month of her pregnancy. Immediately after the death of the mother the child was removed by the operation of Cæsarean section. A post-mortem examination was made on the body of the mother. Advanced tubercular changes were found in the lungs, and also some miliary tubercles in the liver and other organs. The child had been felt to move after the death of the mother, but by the time the operation had been performed it was found to be dead. The thorax was at once opened, but the lungs appeared to be quite healthy. The body was then removed to the laboratory, the surface of the abdomen washed with perchloride of mercury, and the cavity opened by means of sterilized knives. No evidences of tubercle could be found in any of the organs. Small pieces of the liver, spleen, and kidney were removed with sterilized instruments, and placed in the abdominal cavity of two guinea-pigs and a rabbit. One of the guinea-pigs died in fourteen days; miliary tubercles were found in the peritoneum and large omentum. The second one was killed about six weeks after inoculation, and the same appearances were noted. The animal had appeared ill, it was feverish, and emaciating rapidly. The rabbit lived considerably longer—three months; after death, tubercles were found in the liver and lung. From these experiments it was evident that although no tubercular lesions could be found in the organs of the child, yet the latter were capable of infecting animals; and had the child survived, it would have undoubtedly developed tuberculosis at an early age. It is a point of great interest to read that tubercle bacilli were found in the umbilical cord and in the blood of the umbilical vein.—*Lancet.*

MEDICAL CHEMISTRY.

A NEW DEPARTURE IN FILTERING APPARATUS

E. Martin has recently devised the following improvement in filtering apparatus. An endless traveling band, made of any material suitable for filtering purposes, is so arranged as to assume for a portion of its length the form of an open horizontal trough or cistern. For this purpose the band is mounted in a manner to cause it to make a slight descent at one end, and and simultaneously to have the two sides or edges of the fabric turned up. In this form the band extends horizontally for a certain length, and is then made to rise again on an incline and to spread out flat.

In this manner a shallow traveling cistern is formed between the two inclines wherein the water for filtering is received.

The speed of the traveling band may be regulated in such a way as to allow it to be coated to any desired degree with the matter arrested from the filtered liquid, and on continuing to travel it may be conducted through cleansing apparatus, whence it will return cleaned and ready for the renewal of the operation.

REACTION OF SALOL.

According to *Journal de Pharmacie d Anvers*, the following is a characteristic of salol. A small quantity of salol is added to a few drops of nitro sulphuric acid. The mixture is colored yellow and on stirring with a glass rod it changes to brown and then to green. On diluting with about 50 gm. of water the liquid assumes a rose color, the green color reappearing on adding ammonia. Resorcin treated in the same manner gives a deep blue color; on dilution, red. In the latter solution, ammonia causes the blue color to reappear.

DELICATE TEST FOR ALUM IN DRINKING WATER.

E. H. Richards contributes to *Technology Quarterly* the following, which it is said, will detect 1 part of alum in 1,000,000 parts of water (1 grain in about 17 gallons): To 25 ccm. of water (concentrated from 1 litre or more if necessary,) are added a few drops of freshly-prepared logwood decoction; any alkali is neutralized and the color brightened by the addition of two or three drops of acetic acid. By comparison with standard solutions the amount of alum present may be determined. The logwood chips must be treated with boiling water two or three times before finally extracting for the color, as the first extraction gives a yellow color, the third or fourth a deep red.

A NEW SOLVENT OF CAMPHOR.

From the frequency with which the indications for the subcutaneous injections are met with it is evident that a good and reliable solvent for this substance is a great desideratum.

Ethereal solutions rapidly evaporate. Alcoholic solutions also evaporate and the camphor becomes precipitated, so that injections of such solutions produce severe pain or even abscess. Solutions of camphor in oil are difficult to employ, besides possessing the disadvantage of the liability of becoming rancid.

In the *Zeitschrift für Thèrapie* for September 1st, 1891, Dr. Karl Rosner recommends in the highest terms a solution of camphor in liquid paraffin, which, when slightly warmed, forms a perfectly clear and limpid solution. He states that he has kept this solution for more than five years without its properties becoming changed.

NEWS AND MISCELLANY.

INTERNATIONAL DERMATOLOGICAL CONGRESS IN VIENNA.

The second meeting of the International Dermatological Congress will be held in Vienna from the 5th to the 10th of September 1892.

Many of the most distinguished representatives of dermatology and Syphilography from all countries have promised to present papers and the indications are that the meeting will be a great success from a scientific standpoint.

The committee on organization, through the President, Prof. Kapesi, has extended a cordial invitation to the members of the American Dermatological Association and of the New York Dermatological Society and others interested in Dermatology in this country to be present.

The membership fee (five dollars) should be sent with titles of papers intended for presentation to the Secretary for North America, Dr. Prince A. Morrow, 66 West 40th street, New York, or to the Secretary General of the Congress, Dr. Gustav Riehl, Wien Ⅸ⁄, Bellaria Strasse 12.

A successful case of bone-grafting is reported from Allahabad, a solution of continuity in the anterior layer of the frontal sinus having been induced to take on osseous repair by sprinkling the surface with "small fragments" of the hip-bone of a newly killed dog.—*Med. Press.*